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III









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**OFFICIAL REGISTER**  
OF  
**HARVARD UNIVERSITY**

VOLUME III

JANUARY 30, 1906

NUMBER 4

**REPORTS**  
OF  
**THE PRESIDENT AND THE TREASURER**  
OF  
**HARVARD COLLEGE**  
**1904-05**



CAMBRIDGE, MASS.  
**Published by Harvard University**

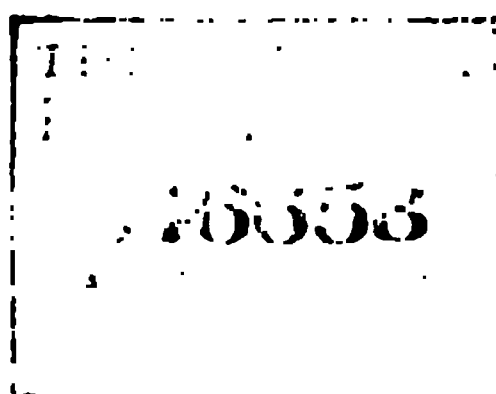


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## PRESIDENT'S REPORT FOR 1904-05.

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TO THE BOARD OF OVERSEERS : —

The President of the University has the honor to submit the following report for the academic year 1904-05, — namely, from September 29, 1904, to September 28, 1905.

Edward Stickney Wood, Professor of Chemistry in the Medical School, died on the 11th of July, 1905, in the sixtieth year of his age. Dr. Wood was appointed assistant professor of chemistry in 1871, and at the end of his five-year term as assistant professor he was promoted to be full professor, being at the time thirty years old. He had received a very thorough training in medicine, having cherished a definite purpose to be a physician even before his entrance into Harvard College. When he entered on his duties as assistant professor, the Medical School was supplying instruction in general chemistry, and Professor Wood for years gave much of this elementary instruction ; but he gradually developed valuable courses in medical chemistry proper, and before his death had seen all the resources of his department in the School devoted to that subject. As a teacher he was clear, systematic, and convincing. He bore a large part during the last thirty years in improving the teaching of chemistry as applied by medical practitioners and health officers ; and he repeatedly served on public commissions in which a medical and chemical expert was needed. His most useful public service, however, was as an expert witness in murder trials. He had a remarkable knowledge of poisons and of the means of detecting their presence in the human body, and had also made a very careful study of blood stains. As a witness he was quiet, imperturbable, and evidently concerned only to declare the truth. His character, quite as much as his knowledge and skill, lent weight to

his testimony. His professional career covers a period during which the chemical means of diagnosis in disease were greatly enlarged and improved. These new means Professor Wood placed before the successive classes of medical students with steady earnestness and success.

At the close of the year Professor John Knowles Paine resigned the professorship of music which he had held since 1875. Professor Paine's first appointment in the University was that of University lecturer in the year 1863-64. In 1873 he was made assistant professor of music, from which post he was promoted in 1875. In the interval between 1864 and 1873 he was in the service of the University, though not on Corporation appointments. The Department of Music has been built up under his guidance. For many years he himself gave all the instruction in the Department; but it now counts several teachers, and a large and increasing body of students, and it has sent out a considerable number of Harvard graduates who make music their profession. The creation of the Department of Music in Harvard University is all the greater achievement, because it was a new field of work for the University, not supported by any living educational tradition like that which supports instruction in Hebrew, Greek, Latin, mathematics, and philosophy, and not especially congenial to the evolved or opened-out Puritans who for a hundred years have had the management of Harvard College.

Professor Paine has been not only a teacher of the theory of music, but a composer, or original producer in his subject. His career has illustrated the general truth that in a university the most influential professors are those who have creative or inventive capacity, and themselves contribute to the progress of knowledge and art.

Clement Lawrence Smith, Pope Professor of Latin, resigned his professorship on October 31, 1904, on account of failing health, having served as tutor, assistant professor, and professor from 1870 to 1904. He was also assistant to Dean Dunbar for three years (1879-1882), Dean of the College Faculty from 1882 to 1890, Dean of Harvard College from 1890 to 1891, and Dean of the Faculty of Arts and Sciences

from 1898 to 1902. Both as teacher and administrator Professor Smith was fortunate in his period of active service. It was a period of many interesting and far-reaching changes, to the safe guidance of which Professor Smith's thorough scholarship, calm judgment, and steady work effectively contributed.

The Statutes of the University were amended in 1904-05 as follows : —

In Statute 3 the title "Inspector of Grounds and Buildings" was substituted for the title "Superintendent of Buildings."

In Statute 6 the sentence "Any administrative board established for Harvard College shall consist of not less than fifteen members" was stricken out, in order that the administrative board for the College might be gradually reduced in number. For the current year it contains nine members.

In Statute 16 the clause relating to the provision at the expense of the College of seats for all students who attend the Sunday services of the several religious denominations having established places of worship in the immediate vicinity of the College was stricken out, and an addition was made to the statute which made it read in its new form as follows : "Daily prayers are held in the Chapel on week days, and an evening service on Sundays, during term time. Other services are held from time to time as the Board of Preachers to the University may determine."

Francis Greenwood Peabody, Plummer Professor of Christian Morals, who, in conjunction with the Board of Preachers, had had charge of the religious services of the University since May, 1886, asked to be relieved of this function in June last, in view of his proposed absence at Berlin, and of the increase in his duties as a teacher consequent on the endowment of the courses of instruction in his charge. The Corporation recognized the propriety of his request, although they regretted very much to lose his services in the conduct of Appleton Chapel, Professor Peabody having had general charge of the Chapel ever since attendance at religious services was made completely voluntary throughout the University. Many persons looked forward to this experiment with grave appre-

hensions, and prophesied its speedy failure. Its remarkable success has been due to Professor Peabody's good judgment and zeal and to the enthusiasm and cordial coöperation of the successive members of the Board of Preachers. In June last the President and Fellows voted "that Edward Caldwell Moore, Parkman Professor of Theology, have general charge of the services in Appleton Chapel in coöperation with the Board of Preachers until further order of the President and Fellows." Professor Moore is a Congregationalist. For about ninety years,—that is, ever since the College has maintained religious services distinct from those of the First Parish Church in Cambridge,—these services have been in the hands of members of the Unitarian body; although since 1881 ministers of many different denominations have been systematically employed as preachers in the College pulpit.

The committee appointed by the President and Fellows of Harvard College on May 16, 1904, to confer with a committee of the Executive Committee of the Corporation of the Massachusetts Institute of Technology concerning a possible combination of effort on behalf of technical education between the University and the Institute, held many meetings, considered the opinions of lawyers who represented various interests involved in the negotiation, and from time to time made informal reports to the President and Fellows concerning the progress of the negotiations. On the 26th of March, 1905, the committee on behalf of the President and Fellows notified the committee on behalf of the Institute that the committee representing the University believed that "a proposal for an arrangement upon the terms hereinafter set forth would be acceptable to the Corporation of Harvard University, and would be transmitted with its approval to the Board of Overseers." This proposal will be found in the Appendix (p. 341). The proposal was a conditional one, which could not be given effect "until, and unless, the University shall have applied to the Supreme Judicial Court for instructions, and the Court shall have made a decree that this agreement may be carried out without violation of its duties as a trustee, and in accordance with law and equity." On the 14th of June following

the President of the University received the following letter from the President of the Institute of Technology : —

Boston, June 13, 1905.

DEAR SIR : —

At a meeting of the Corporation of the Institute of Technology held on the 9th June, a vote was passed by a substantial majority, instructing the Executive Committee to announce to the President and Fellows of Harvard University the readiness of the Institute to propose an agreement in accordance with the plan submitted by the Conference Committee, provided that a favorable decision in regard to the Boylston St. land is first secured, and provided, also, that a clause is introduced into the agreement similar to that relating to the University relative to securing from the Supreme Judicial Court a decision as to the right of the Corporation of the Institute to make such an agreement.

This action commits the Institute, so far as it can be committed at present, to the plan of agreement under discussion: and so soon as the decision in regard to the Boylston St. land is rendered we shall at once communicate with you, in the hope that the matter may be taken up at the earliest opportunity by the Corporation of Harvard University.

In communicating this action let me express my own pleasure at the step, and my appreciation, at the same time, of the generous attitude of the Harvard members of the Conference Committee in the meetings which led to the formation of a tentative plan of agreement.

Yours sincerely,

(Signed) HENRY S. PRITCHETT.

President C. W. ELIOT.

This letter called for no action on the part of the President and Fellows of Harvard College, inasmuch as the readiness of the Institute to propose an agreement depended upon first securing two favorable decisions from the Supreme Judicial Court. Nevertheless, both Corporations had expressed a willingness to consider a tentative plan of agreement, which had been elaborated by a joint committee of the two bodies. Both Corporations intended to await certain decisions by the Supreme Judicial Court. On the 30th of October the following letter was communicated to the President and Fellows : —

President CHARLES W. ELIOT,

Harvard University, Cambridge, Mass.

MY DEAR PRESIDENT ELIOT, — I am directed by the Corporation of the Institute of Technology to communicate to you the fact that, in view of the recent decision of the Supreme Court of the state in the case of John

## 10 NEGOTIATIONS WITH THE INSTITUTE OF TECHNOLOGY.

*Wilson et al vs. The Massachusetts Institute of Technology*, the Corporation of the Institute finds it impossible to proceed with the plan of coöperation which was considered at its meeting of June 9.

In communicating this fact the Corporation desires at the same time to express its appreciation of the fairness and courtesy of the Corporation of Harvard University in our common effort to solve a difficult question.

I am,

Very sincerely yours,

(Signed) HENRY S. PRITCHETT, *President*.

OCTOBER 11, 1905.

### Whereupon the Board

*Voted*, That the committee of conference appointed by this Board May 16, 1904, at the instance of the Corporation of the Massachusetts Institute of Technology be hereby discharged; and that the President be requested to express to the members of the two committees of conference the high appreciation by the President and Fellows of the foresight, good judgment, and public spirit of which the committees' project for a close affiliation between the Institute and the University gives evidence, and the regret of the President and Fellows that the project has been brought to naught by the recent decision of the Supreme Court, which makes it impossible for the Institute to place itself beside the University.

*Voted*, To acknowledge hereby the receipt of notice from the Corporation of the Massachusetts Institute of Technology that the negotiation with this Board started by the Institute May 4, 1904, is at an end.

It will be observed that the negotiation between the University and the Institute never passed out of the hands of the joint committee, and never extended beyond the formation of a tentative plan, which the two Corporations agreed to consider provided certain decisions of the Supreme Court should be first obtained. The President and Fellows never had the opportunity to discuss the matter with the Corporation of the Institute, and never had an unconditioned proposal to lay before the Faculty of Arts and Sciences or the Board of Overseers. For these reasons there was, from the side of the University, no public discussion of the subject. The negotiations failed because of an unfavorable decision of the Court concerning the right of the Institute to sell the land occupied by it on Boylston Street, Boston.

The principal event of the year 1904—05 was the raising by general subscription of the fund called the “Teachers’ Endowment Fund.” This enterprise was first suggested to the alumni by Bishop William Lawrence, President of the Alumni Association, at the Commencement dinner of 1904, when he reported to the assembled alumni the rates of teachers’ salaries in Harvard College, and declared that the scale ought to be raised by means of an endowment to be provided by the alumni and friends of the University. In the following autumn a small committee of graduates was selected to undertake the work of raising two and a half millions of dollars, the chairman of this committee being Bishop Lawrence. This committee worked assiduously till Commencement Day, 1905, at first by means of private interviews and letters, but later by means of circulars sent to all living Bachelors and Masters of Arts. A copy of the circular issued will be found in the Appendix (p. 344). The class organizations were also utilized by the soliciting committee; but the work was conducted from first to last with but little publicity and with no exhortations through the press. On Commencement Day, 1905, Bishop Lawrence, as president of the great meeting of the alumni in Memorial Hall, announced that the purpose of the committee had been measurably accomplished, and that more than two millions of dollars had been already contributed to constitute a permanent fund for the increase of the teachers’ salaries in Harvard College. When the new academic year opened, the President and Fellows found that they were already in possession of \$1,800,000, including a gift of \$100,000 from the Class of 1880, and that \$500,000 more had been pledged to come in gradually within a few years. Of the cash in hand \$1,000,000 came from certain large contributors in New York City.

The following letter is the official statement of the purposes of the Teachers’ Endowment Fund:—

JUNE 23, 1905.

TO THE PRESIDENT AND FELLOWS OF HARVARD COLLEGE, 50 STATE STREET, BOSTON, MASS.:—

DEAR SIRS,—The Alumni and friends of Harvard, impressed with the insufficiency of the salaries of the teachers of the College, desire to present a fund, as a mark of their gratitude and affection, to be called the



“Teachers' Endowment Fund.” The conditions of the gift are as follows: —

The Alumni and friends of Harvard University give this fund to the President and Fellows of Harvard College, to be called the “Teachers' Endowment Fund,” the income to be used to increase salaries of teachers in Harvard College.

By “Harvard College” is meant the departments of instruction which are now under the direction of the Faculty called “The Faculty of Arts and Sciences.”

The Committee have thought it wise to submit the terms of this gift to John C. Gray, Esq., of Boston, and the Honorable Joseph H. Choate, of New York, for their approval. We enclose their letters.

(Signed)      WILLIAM LAWRENCE, *Chairman*,  
F. L. HIGGINSON,  
HENRY S. HOWE,  
ROBERT BACON,  
JAMES J. STORROW,  
FRANCIS R. APPLETON.

This letter is memorable not only because it defines the object of a large permanent fund, but also because it gives a definition of Harvard College which is new and yet absolutely in harmony with the history of the three departments now under the direction of the Faculty of Arts and Sciences. The Graduate School has been, as a matter of fact, developed out of Harvard College by teachers in Harvard College at the cost of Harvard College; and the Lawrence Scientific School, whose early development was independent of that of Harvard College, has during the past twenty years been gradually blended with Harvard College, partly through the action of the Faculty and its administrative boards, but partly also by the social action of the undergraduates of Harvard College on the one hand and of the Lawrence Scientific School on the other. The Graduate School never had a separate budget of its own; and the budgets of Harvard College and of the Lawrence Scientific School have been merged for many years.

The phrase “to increase salaries” was intended to cover two sorts of increase, — first, increase of the scale of salaries throughout Harvard College; and secondly, increase of salaries in special cases, in order to facilitate promotions and to prevent the loss to other institutions of valued teachers.

A variety of phrases to express the object of the fund occurred on the subscription papers used by different solicitors; but none of these phrases were inconsistent with the terms of the above letter. Thus, in a paper which bore subscriptions to the amount of a million dollars the object of the new endowment was expressed in these words: "the income to be used for no other purpose than the support of the teaching force of the College."

The Corporation determined soon after the opening of the current year that the new fund would justify a rise in the scale of salaries in the following grades: (1) For instructors appointed without limit of time; (2) for assistant professors in the first term of five years; and (3) for professors on their first appointment as such. The most considerable increase (25 per cent.) is in the salary of the assistant professor during his first term of five years, the salary at this stage of an academic career having been the lowest of the series in proportion to the services rendered and to the probable and desirable annual expenses of the teacher. The Corporation were able to give a considerable number of the teachers the benefit of this new scale and also of an advancement in grade.

The Faculty of Arts and Sciences is, on the whole, a young Faculty. Half of the members are not more than forty years of age, and only one-thirteenth of them are oversixty (see Table I). Accordingly the number of routine advancements of salary is sure to be large during the next ten years; and, on the other hand, the number of retirements is sure to be small.

It was therefore necessary to reserve a portion of the present income of the Teachers' Endowment Fund for the maintenance of the new scale, the cost of which will be increased by the probable promotions of the next ten years. The increase in the scale of salaries seems only a moderate one; but the Corporation has certainly gone to the limit of prudence in raising the scale of salaries, because the second sort of increase of salaries — namely, provision for individual promotions — is very important to the welfare of the College, and must not be made impossible of execution because of the increases involved in a higher scale operating in a regular automatic way.

TABLE I.—AGES OF FACULTY MEMBERS, 1904-05.

Years	No. of Persons.	Years.	No. of Persons.	Full Professors not over 40 in 1905 = 10.
28	1	56	1	34 . . . . . 1
29	6	57	1	35 . . . . . 1
30	3	58	2	37 . . . . . 3
31	5	59	1	38 . . . . . 1
32	4	60	2	39 . . . . . 2
33	5	61	0	40 . . . . . 2
34	10	62	1	
35	4	63	3	
36	7	64	1	
37	10	65	1	
38	3	66	3	
39	3	67	0	
40	9	68	0	
41	2	69	0	
42	4	70	0	
43	3	71	1	
44	3			
45	4			
46	3			
47	3			
48	4			
49	8			
50	3			
51	2			
52	3			
53	5			
54	0			
55	4			

Of the 10, 4 came in as full professors, 1 as assistant professor, and 5 rose through all the grades.

One admirable effect of the new Teachers' Endowment Fund will be the decreased dependence on tuition fees in Harvard College; in other words, a larger proportion of the total sum paid to teachers will hereafter be derived from endowment. As was pointed out in last year's report, it is very desirable to diminish the dependence of the College on the receipts from students.

The occurrence of eight annual deficits of serious amount within the last ten years has caused the President and Fellows to make a careful examination of the increase in the number of students, of the constitution of the Faculty of Arts and Sciences by grades, of the normal rate of personal changes in the Faculty, and of the relation between the number of students and the number of teachers in the several grades. The following table shows how the number of students has increased in twenty-five years in the departments under the charge of the Faculty of Arts and Sciences, and in parallel columns how the

number of professors and assistant professors has increased year by year during the same period. The increase in the number of professors and assistant professors has never been so rapid as the increase in the number of students, except

TABLE II.

Year.	No. of Students in Harvard College L. S. S. and Grad. Sch.	No. of Professors in Faculty.	No. of Assistant Professors in Faculty.	
1880-81	923	27	13	Students Harv. Coll. . . . 843 " L. S. S. . . . 37 " Grad. Sch. . . . 43    923
1881-82	912	28	13	
1882-83	1013	30	13	
1883-84	1074	33	14	
1884-85	1104	35	13	
1885-86	1162	39	15	
1886-87	1161 <sup>1</sup>	39	13	
1887-88	1254	39	13	
1888-89	1310	39	14	
1889-90	1443	38	15	
1890-91	1552	40	14	
1891-92	1763	41	18	
1892-93	1985	46	18	
1893-94	2188	45	22	
1894-95	2233	43	23 <sup>2</sup>	
1895-96	2396	45	24	
1896-97	2417	46	25	
1897-98	2516	49	24	
1898-99	2588	52	24	
1899-00	2723	55	27	
1900-01	2840	56	31	4 profs. and 1 asst. prof. pd. by other departments.
1901-02	2844	56	29	
1902-03	3009	63	35	
1903-04	3023	68	39	3 profs. and 1 asst. prof. pd. by other departments.
1904-05	2905 <sup>3</sup>	71 <sup>3</sup>	41 <sup>4</sup>	

<sup>1</sup> Lowest number in the Lawrence Scientific School. 14 students in all; two regular students, one professor, and one instructor in Engineering.

<sup>2</sup> First year of the Departments of Architecture (one assistant professor) and Mining (one instructor).

<sup>3</sup> Including two professors of Architecture, two of Mining and Metallurgy, and two of Engineering.

<sup>4</sup> Including two assistant professors of Mining and Metallurgy, and five of Engineering.

<sup>5</sup> Number of students in Harvard College 2009; in the Lawrence Scientific School 530; in the Graduate School 366.

during the past three years — 1902–03 to 1904–05 inclusive. During these three years the number of permanent teachers increased largely, while the number of students did not increase. In spite, however, of the unfavorable ratio of new permanent teachers to new students during the last three years, the result for the whole period is that the number of students has been multiplied by  $3\frac{14}{100}$ , whereas the number of professors and assistant professors added together has been multiplied by  $2\frac{80}{100}$ . The period covered by Table II includes the development of the Graduate School from a body numbering 43 students to a body numbering 366, the conversion of the Lawrence Scientific School from a declining group of special students into a large and well-organized school, and the multiplication of the number of students in Harvard College by  $2\frac{38}{100}$ . The development of the Scientific School involved numerous new salaries in the Departments of Mathematics, Engineering, Geology, and Mining and Metallurgy. During the same period the practice of including in the Faculty of Arts and Sciences professors whose compensation was derived, in whole or in part, from other departments — as, for instance, the Divinity School, the Law School, and the Peabody Museum — increased considerably, for the reason that undergraduate and graduate students in Arts and Sciences attended the courses of such professors. The gradual extension of this practice appears in the following statement: —

TABLE III.

Faculty of 1880–81, 2 Professors with salaries derived from other departments.				
“	1885–86, $2\frac{1}{2}$	“	“	“
“	1892–93, 5	“	“	“
“	1899–00, 5	“	“	“
	1 Professor $\frac{1}{2}$ whose pay was derived from other			“
	2 Professors $\frac{1}{4}$	“	“	“
“	1902–03, 5 Professors whose pay was derived from other departments.			
	1 Professor $\frac{1}{2}$	“	“	“
	1 “ $\frac{1}{4}$	“	“	“
	1 “ on half pay.			
“	1904–05, 6 Professors whose pay was derived from other departments.			
	1 Professor $\frac{1}{2}$	“	“	“
	1 “ $\frac{1}{4}$	“	“	“
	1 Instructor	“	“	“
	2 Professors on half pay.			
	1 Professor without salary.			

In Table IV the division of the Faculty into professors, assistant professors, and instructors is compared for six years, between 1880 and 1905, which were years of decided increase in the total number of the Faculty. This table exhibits not only the growth of the old departments of the College but the advent of new departments, as, for instance, of Government, Education, Architecture, Forestry, and Anthropology. The department of Government, one of the new ones, has not increased in cost with the rapidity which the table would indicate, because two, and sometimes three, teachers who derive their entire salaries from the Law School are included in the table. These gentlemen give courses open to students registered under the Faculty of Arts and Sciences on such subjects as Constitutional Law, International Law, Insurance, and Contracts.

It may be seen in this table that the sum of the assistant professors and instructors in the Faculty often approaches and sometimes surpasses the number of the professors; whence it might be inferred that the teachers in the Harvard Faculty were younger or less experienced men than the full professors who almost exclusively compose the Faculties of smaller colleges. This inference would be incorrect. The assistant professors and instructors in the Harvard Faculty are in regard to age and experience just such men as receive forthwith the title of professor in the smaller colleges, and they are paid higher salaries than full professors in many American colleges. There is no foundation in fact for the notion that students in small colleges come under the influence of more experienced and learned teachers than do students in large colleges.

The most remarkable change in the composition of the total body of teachers in Harvard College has taken place, not in the upper grades — the grades of permanent employment, — but in the lower — the grade of annual instructor and the grade of assistant. Table V shows how rapid and large has been the increase in the number of teachers called annual instructors and assistants. This development, which is of great import, was already considerable twelve years ago.

FACULTY MEMBERS, 1880-1905.

TABLE IV.—FACULTY MEMBERS, 1880-1905.

P.=Professor.      A.=Assistant Professor.      I.=Instructor.

DEPARTMENTS.	1880-81.			1885-86.			1892-93.			1899-1900.			1902-03.			1904-05.		
	P.	A.	I.	P.	A.	I.	P.	A.	I.	P.	A.	I.	P.	A.	I.	P.	A.	I.
Semitic . . . . .	1			2			2			2			2			2		
Indic . . . . .	1			1			1			1			1			1		
Classics . . . . .	4	3	5	6	2	2	7	1	2	7	5	8	8	4	1	9	3	2
English . . . . .	2			3	1		3	2	3	4	2	3	4		3	3	6	3
Germanic . . . . .	1	2	2		1		1	3		3	1	3		1	1	3	1	1
Romance Languages . . . . .	1	1		2	2		2	1	1	4	1	2	3	4	1	3	4	1
Slavic . . . . .																		
History and Government . . . . .	2		3	3	2		2	3	2	7	3		10	2		12	2	1
Economics . . . . .	1						3		1	3	1		3			3	4	
Philosophy . . . . .	2	1		1	1		6		1	6	1		6	1		6	1	3
Education . . . . .				5	1			1			1		1			1		1
Fine Arts . . . . .	1		1	1		1	1	1		1			1		1	1		1
Architecture . . . . .										1		1	1		1	2		1
Music . . . . .	1			1			1			1			1		2	1		1
Mathematics . . . . .	1	2	1	3	1		4		1	3	2	2	3	1	3	5	2	3
Astronomy . . . . .											1			1		1	1	
Physics . . . . .	3		1	3		2	1	1	1	2	1		2	1		2	1	
Chemistry . . . . .	1	2		3			3		1	2	2	1	3	1	1	3		3
Engineering . . . . .	1			3			1		1	1	2	2	2			2	3	3
Forestry . . . . .											3	2		4		2	5	
Botany . . . . .	2			2			2	1		2	1		3	1			1	1
Zoölogy . . . . .			1	1	2		2			1		1	1	1	1	4	2	1
Geology . . . . .	2		1	2	1		3			2	1	2	2	3	1	2	4	
Mineralogy . . . . .								1	1	1		1	1	1		1	1	
Mining and Metallurgy . . . . .											1		1	1		2	2	1
Anthropology . . . . .							1			1			1			1		1
Anatomy and Physiology . . . . .		2			1													1
	27	13	15	39	15	7	46	18	13	55	27	24	64	35	31	71	41	28

TABLE V.

	1880-81.	1885-86.	1892-93.	1899-00.	1902-03.	1904-05.
Annual Instructors . . . . .	12	18	39	66	73	64
	(2) <sup>1</sup>	(4) <sup>1</sup>	(13) <sup>1</sup>	(26) <sup>1</sup>	(38) <sup>1</sup>	
Assistants . . . . .	7	8	34	70	86	64
	(0) <sup>1</sup>	(2) <sup>1</sup>	(2) <sup>1</sup>	(19) <sup>1</sup>	(21) <sup>1</sup>	
Austin Teaching Fellows . . . . .				8	17	31
				(4) <sup>1</sup>	(5) <sup>1</sup>	

<sup>1</sup> Now in service.

Thus, there were six times as many annually appointed instructors in 1902-03 as there were in 1880-81; and there were twelve times as many assistants in 1902-03 as there were in 1880-81. This great increase is due in part to the increase in the number of students, but chiefly to the desire of the Faculty to have the instruction given by professors and assistant professors followed up and repeated by young instructors who come into close personal relation with the individual student. The figures of 1904-05 show a decided diminution in the number of both annually appointed instructors and assistants, the loss in the latter case being partly made good by an increase in the number of Austin Teaching Fellows. This inexpedient contraction was a measure of economy. The annual appointees are, for the most part, young graduates, — advanced students in their several departments who are a few years older than the young men whom they instruct. The employment of a large number of these young teachers is one of the greatest improvements made in recent years by the Faculty of Arts and Sciences. They have two functions, which are somewhat distinct. For zealous students they supply individual instruction and guidance in addition to the professors' teachings in the lecture-room. On the lazy or unambitious student they exert a steady pressure which obliges him to do some work from day to day, and helps him over difficulties due to inattention or lack of interest. The experience is ordinarily helpful to the young teacher as regards his own mastery of his subject and his own character and personal influence. A considerable proportion of the annual appointees enter the profession of teaching — some in Harvard University, as the table shows, but more in the service of other institutions.



The annual charge for the salaries of annual appointees under the Faculty of Arts and Sciences has become very heavy. In 1880-81 the amount so paid was \$12,150; in 1902-03 it was \$100,110. This is an educational improvement which is well worth what it costs; but it would be perfectly fair to say that the increase of the annual charges for annual appointees would by itself account for all the eight deficits of the last ten years. To illustrate this proposition by the facts in a single department: in 1895-96 there were eight assistants in the Department of History and Government, who performed nearly 3,000 hours of work during the year and received \$2,500 as compensation; in the year 1905-06 there are seventeen assistants in the same department, who are expected to perform 7,234 hours of work and whose compensation will be \$5,700. It is the belief of the Faculty and of its administrative officers that a method of teaching has been thus developed which is applicable to large classes, justifies the academic lecture, makes the continuance of that form of instruction wholly desirable, and trains for every variety of departmental teaching a steady stream of advanced students. It is part of the method that the annual appointees should be young and rapidly replaced. They should work with small sections or with the individual student. Many of them work in both ways.

The rate at which the membership of the Faculty changes is an important element in the general question of increase of salaries, especially if the University is to have, through the Carnegie Foundation or otherwise, an adequate provision of retiring allowances. Table VI sheds some light on this subject of replacement. It appears that in twenty years more than half the members of the Faculty disappear, and that in any five years from one-sixth to one-fourth of the members of the Faculty will disappear. During the greater part of the period covered by this table no system of retiring allowances was in force; so that, in all probability, changes will be more rapid hereafter than they have been since 1880-81. In a service having long probations and life tenures for well-proved persons only, the replacement of a large staff is more rapid than is generally supposed.

TABLE VI.

**Faculty 1880-81 = 56 Members.****Dead, August, 1905 :—**

Professors . . . . .	18	
Assistant Professors . . . . .	4	
Instructors . . . . .	<u>1</u>	18

**Otherwise gone :—**

Professors . . . . .	7	
Assistant Professors . . . . .	9	
Instructors . . . . .	<u>7</u>	<u>17</u> 35 = 62½ %

**Faculty 1886-88 = 62 Members.****Dead, August, 1905 :—**

Professors . . . . .	14	
Assistant Professors . . . . .	1	
Instructors . . . . .	<u>0</u>	15

**Otherwise gone :—**

Professors . . . . .	10	
Assistant Professors . . . . .	6	
Instructors . . . . .	<u>3</u>	<u>19</u> 34 = 55 %

**Faculty 1892-93 = 78 Members.****Dead, August, 1905 :—**

Professors . . . . .	8	
Assistant Professors . . . . .	0	
Instructors . . . . .	<u>1</u>	9

**Otherwise gone :—**

Professors . . . . .	13	
Assistant Professors . . . . .	3	
Instructors . . . . .	<u>5</u>	<u>21</u> 30 = 38½ %

**Faculty 1899-1900 = 107 Members.****Dead, August, 1905 :—**

Professors . . . . .	4	
Assistant Professors . . . . .	0	
Instructors . . . . .	<u>1</u>	5

**Otherwise gone :—**

Professors . . . . .	6	
Assistant Professors . . . . .	5	
Instructors . . . . .	<u>9</u>	<u>22</u> 27 = 25½ %

Faculty 1902-03 = 132 Members.

Dead, August, 1905 :—

Professors . . . . .	1	
Assistant Professors . . . . .	0	
Instructors . . . . .	0	1

Otherwise gone :—

Professors . . . . .	4	
Assistant Professors . . . . .	2	
Instructors . . . . .	7	13 14 = 10 $\frac{1}{10}$ %

Five-year changes in Faculties of four different dates.

Members gone in 5 years from Faculty of 1880-81 =	12	21 $\frac{4}{10}$ %
“ “ “ “ 1885-86 =	12	20 %
“ “ “ “ 1892-93 =	13	16 $\frac{2}{3}$ %
“ “ “ “ 1899-00 =	25	23 $\frac{1}{2}$ %

It will be seen in Table II that the number of students under the charge of the Faculty of Arts and Sciences increased in every year after 1881-82 until the year 1904-05, when there was a loss of 118 students. During the current year there is a similar loss of 108 students. The regular Freshman classes of the College and the Scientific School were smaller in 1904-05 than in 1903-04, and again they were smaller in 1905-06 than in 1904-05. This diminution in the number of students, coming at a time when the annual expenditures of the departments under the charge of the Faculty of Arts and Sciences have been exceeding the receipts in those departments, presents a new embarrassment. Its causes are probably complex, and they take effect in Massachusetts and the adjacent states rather than at a distance from the College.

Table VII, on the geographical distribution of students in Harvard College, brings out the fact that, whereas there has been no durable gain in the number of students from New England, or from Massachusetts by itself, for five years past, there has been a considerable gain in the number of students from New York, New Jersey, and Pennsylvania, and from outside New England, in spite of a decline of numbers from Ohio, Illinois, and Missouri.

The diminution in the size of the Senior classes of Harvard College due to graduation in three years goes far to account for the total loss of students in Harvard College proper.

TABLE VII.—GEOGRAPHICAL DISTRIBUTION OF STUDENTS OF HARVARD COLLEGE PROPER.

	1894-95.	1899-00.	1900-01. •	1901-02.	1902-03.	1903-04.	1904-05.
North Atlantic* . . . . .	1332	1536	1621	1585	1678	1659	1625
South Atlantic . . . . .	44	40	40	47	58	52	50
South Central . . . . .	22	29	30	35	38	34	33
North Central . . . . .	203	237	238	252	264	256	225
Western . . . . .	39	38	36	37	42	42	47
Dependencies . . . . .	1	10	7	6	7	7	6
Foreign . . . . .	26	12	20	21	22	23	23
Total . . . . .	1667	1902	1992	1983	2109	2073	2009
New England . . . . .	1041	1181	1235	1176	1240	1216	1162
Massachusetts . . . . .	939	1070	1113	1054	1118	1097	1052
N. Y., N. J., Pa. . . . .	291	355	386	409	438	443	463
Outside New England . . . . .	626	721	757	807	869	857	847
Outside North Atlantic . . . . .	335	366	371	398	431	414	374
New York . . . . .	211	248	272	285	305	309	314
Pennsylvania . . . . .	55	76	82	86	93	94	106
Ohio . . . . .	43	62	71	83	82	84	70
Illinois . . . . .	58	68	65	66	65	56	49
Missouri . . . . .	26	42	32	34	29	27	22

Thus, in 1902-03 the Senior Class numbered 381 ; in 1905-06 it numbers only 242. Comparing the numbers of students in the Lawrence Scientific School in the same years, it appears that that School has lost 80 students, undoubtedly because of the raising of the standards of admission to the School and of the standards of attainment within it. It has been an unfortunate coincidence that just at the time when the teaching body was enlarged, the student body began to shrink. Both the Corporation and the Faculty have given diligent attention to this state of things and have devised various measures which tend to remedy it. Some of these have already gone into effect, but the more important will not begin to take effect till the next academic year. Further endowment is the only thoroughly satisfactory and permanent remedy. To diminish the expenditure upon the College, or the Scientific School, means an inevitable impairment of its teaching power. To

\* The sectional divisions are those employed in the reports of the U. S. Commissioner of Education.

increase the tuition fees is, in the judgment of many of the friends of the College, to impair its democratic quality, and in the long run to diminish its influence. It may seem strange to urge the need of further endowments immediately after the receipt of the large Teachers' Endowment Fund; but the fact is that, although that fund will improve the conditions of the College service and the prospects of the present staff, thereby increasing for young men the attractions of the career of a Harvard teacher, the income of that fund is not applicable to charges already incurred, or to any expansions of the work of the College, however legitimate.

The educated public, and particularly all men concerned with the management and direction of colleges and universities, need to understand the new position of the degree of Bachelor of Arts in the American universities. Its position has changed in important respects within recent years. The table on pages 26, 27, and 28 (Table VIII) is intended to exhibit the changes in practice in regard to this degree, during the past fifteen years, at fourteen institutions of different types.

It is to be noticed, in the first place, that several institutions have given up some of the degrees of comparatively recent creation, such as Bachelor of Letters and Bachelor of Philosophy. The University of Michigan gave up the degrees of Bachelor of Letters and Bachelor of Philosophy after 1900. Cornell University discontinued the degree of Bachelor of Letters in 1899, and the degrees of Bachelor of Philosophy and Bachelor of Science in 1900. At the University of Wisconsin, the degree of Bachelor of Letters, and, in part, the degree of Bachelor of Science, were discontinued after 1903. At Dartmouth College, the course for the degree of Bachelor of Letters was merged in the course for the degree of Bachelor of Arts after 1902; and after 1904 candidates for the different degrees available for undergraduates were all entered on one list. At Oberlin College the Ph.B. and S.B. both ceased to be conferred in 1900. At the University of Nebraska, the degree of Bachelor of Agriculture was discontinued fourteen years ago, and the degrees of Bachelor of Letters and Bachelor of Civil Engineering thirteen years ago.

In spite of this partial withdrawal of several of the newer degrees, the annual number of new degrees conferred is now larger than the number of A.B. degrees at Cornell, Pennsylvania, California, Brown, and Chicago. At Yale, Dartmouth, and Harvard, where only a single degree is now used in competition with the A.B. degree, the number of A.B. degrees conferred has not kept pace, during the fifteen years covered by the table, with the number of the other degree conferred. At the University of Wisconsin the number of degrees of Bachelor of Arts conferred was insignificant down to 1903, when the degree of A.B. was suddenly made much more accessible. At Princeton and Columbia the new degrees conferred have increased in number more rapidly than the A.B. degrees conferred. At the University of Michigan, the legislation of 1900 has apparently reinforced effectually the A.B. degree; but the number of S.B. degrees conferred by that University has more than doubled within the last five years. Oberlin never conferred any considerable number of Ph.B. or S.B. degrees, and has used only the A.B. since 1900; while at the University of Nebraska the position of the A.B. degree is very strong in comparison with that of the S.B., which is the only survivor of the four new degrees which were formerly used at this University.

It appears, then, from this table, that the new degrees, which were freely set up from thirty to sixty years ago at many American institutions, have already been in large measure abandoned, and that the present tendency is to offer undergraduates a choice between two degrees only. Simultaneously, the terms on which the A.B. degree may be obtained have been widened at many institutions. In spite of these changes, the degree of A.B. does not dominate the entire field of undergraduate study, partly because it is not yet attainable through a sufficient variety of studies, and partly because at many institutions undergraduate study can be given a professional direction from the early years of the course by young men who know from the start the profession they are destined for. The quality of such semi-professional courses may be more accurately indicated by the degree of Bachelor of Science or Bachelor of Philosophy than



PRINCETON UNIVERSITY. <sup>4</sup>	Students studying for the degree of A.B. . .															504	559	600	595	559	544	522	553	607	552	725	730	732	587	636		
	Do. do. E.E., S.B., or C.E. . . . .															155	228	261	311	331	308	307	306	303	323	364	438	498	522	558		
	A.B. degrees conferred . . . . .															118	126	113	150	149	162	126	120	127	144	153	170	152	189	167		
UNIVERSITY OF WISCONSIN. <sup>5</sup>	E.E., S.B., Litt.B., and C.E. degrees conferred . . . . .															10	22	20	32	55	47	65	69	62	53	61	82	73	89	60		
	Students studying for the degree of A.B. . .															46	49	48	43	42	61	75	76	97	93	77	68	68	104	115		
	Do. do. Litt.B., S.B., or Ph.B. . . . .															390	429	488	539	651	798	850	890	890	973	1189	1223	1383	818	866		
UNIVERSITY OF CALIFORNIA	A.B. degrees conferred . . . . .															11	8	12	12	12	12	18	11	16	21	25	22	21	176	194		
	Litt.B., S.B., and Ph.B. degrees conferred . . . . .															80	67	117	127	141	140	146	160	176	196	181	237	251	115	142		
	Students studying for the degree of A.B. . .															50	62	65	80	102	108	138	175	200	245	258	265	266	216	202		
BROWN UNIVERSITY.	Do. do. Litt.B., S.B., or Ph.B. . . . .															269	319	373	475	699	848	907	958	989	1140	1346	1501	1787	1862	1914		
	A.B. degrees conferred . . . . .															11	11	10	18	32	18	21	30	35	38	57	65	64	64	51		
	Litt.B., S.B., and Ph.B. degrees conferred . . . . .															43	48	63	77	87	115	187	161	171	183	219	214	301	311	294		
UNIVERSITY OF CHICAGO. <sup>6</sup>	The degrees towards which students are studying are not specified.																															
	A.B. degrees conferred . . . . .															49	47	52	63	65	70	68	70	87	82	65	82	67	73	84		
	Ph.B., S.B., C.E., and M.E. degrees conferred . . . . .															15	11	9	20	38	40	52	56	87	64	62	72	72	80	87		
UNIVERSITY OF CHICAGO. <sup>6</sup>	Students studying for the degree of A.B. . .																															
	Do. do. S.B. or Ph.B. . . . .															112	174	112	174	226	262	279	303	346	343	349	316	289	252	238		
	S.B. and Ph.B. degrees conferred . . . . .															95	205	95	205	259	373	399	442	555	659	650	966	1044	1116	1197		
DARTMOUTH COLLEGE. <sup>7</sup>	A.B. degrees conferred . . . . .															10	14	5	11	23	51	55	78	74	74	79	114	86	75	60		
	S.B. and Ph.B. degrees conferred . . . . .																				52	74	86	98	88	130	173	184	195	207		
	Students studying for the degree of A.B. . .															195	197	176	195	190	197	284	247	296	332	317	297					
DARTMOUTH COLLEGE. <sup>7</sup>	Do. do. Litt.B. or S.B. . . . .															124	129	135	152	154	181	228	261	261	290	319	366					
	A.B. degrees conferred . . . . .															40	46	48	47	41	36	57	37	55	62	62	77	85	60	88		
	Litt.B. and S.B. degrees conferred . . . . .															17	20	20	39	27	26	33	30	48	53	57	54	47	63	49		



	1890-91	1901-92	1902-93	1903-94	1904-95	1905-96	1906-97	1907-98	1908-99	1909-00	1900-01	1901-02	1902-03	1903-04	1904-05
OBERLIN COLLEGE.*	Students studying for the degree of A.B. . .														
	Do. Ph.B. or S.B. . . . .														
	210	173	222	220	248	277	255	252	244	236	235	465	522	507	589
UNIVERSITY OF NEBRASKA †	A.B. degrees conferred . . . . .														
	Ph.B. and S.B. degrees conferred . . . . .														
	85	23	46	42	29	49	66	52	56	54	73	77	100	95	115
HARVARD UNIVERSITY.	Students studying for the degree of A.B. . .														
	Do. S.B., Litt.B., B.C.E., B.Agr. . . . .														
	50	176				335	419	505	483	536	613	700	619	753	755
	A.B. degrees conferred . . . . .														
	S.B., etc., degrees conferred . . . . .														
	11	9	30	31	54	46	66	96	90	95	76	109	149	138	114
	Students studying for the degree of A.B. . .														
	Students studying for the degree of S.B. . .														
	1198	1287	1449	1494	1490	1611	1594	1850	1683	1708	1841	1842	1987	1936	1862
	Number of A.B. degrees conferred . . . . .														
	Number of S.B. degrees conferred . . . . .														
	284	293	335	350	360	392	380	391	443	404	457	422	511	459	425
	2	7	9	19	23	29	25	29	46	59	75	76	101	77	91

Litt.B. and Ph.B. courses merged in A.B. course after 1900.

\* Litt.B. discontinued in 1899; Ph.B. and S.B. in 1900; all in favor of A.B.

† From 1893-94, students in the Courses in Arts and Science in the University of Pennsylvania who do not take Latin and Greek through the Freshman and Sophomore years receive the degree of Bachelor of Science.

‡ The degree of Litt.B. was first granted in 1905, to 9 men. "most of those upon whom it was conferred had been Special Students in the Academic Department."

\* Litt.B. and (in part) S.B. degrees discontinued after 1903.

† Opened October 1, 1902.

‡ Litt.B. course merged in A.B. course after 1904. Degrees for which students are studying not specified after 1902.

§ Ph.B. degree 1887-1900; S.B. degree 1896-1900.

¶ B.Agr. discontinued in 1901; Litt.B. and B.C.E., in 1902. Degrees for which students are studying not specified, 1902-05.

by the traditional degree of Bachelor of Arts. Moreover, the requirements for admission to the course which leads to the degree of S.B. or Ph.B. have been at many institutions decidedly lower than those for admission to the A.B. course. It is for such reasons as these that at Harvard and Yale, where only a single degree competes with the A.B., the development of the newer degree has of late years surpassed the development of the A.B. degree. It is interesting to observe that at Yale University the number of A.B. degrees conferred in 1903-04 or in 1904-05 was not so large as the number conferred in any of the years between 1897 and 1900 inclusive, while at Harvard the number of A.B.'s conferred in 1905 was not so large as it was in 1899, 1901, 1903, or 1904. Nevertheless, many indications may be found in Table VIII that the A.B. degree, if further widened in meaning, and made much more accessible than it has heretofore been in the majority of American institutions, is not unlikely to become before long the sole degree used by colleges and universities to crown the period of undergraduate study. The new scientific professions will acquire significant degrees of their own; but these will be reserved, in the best institutions, for graduate work.

The attention of the Overseers is invited to the interesting description of the capacities and tendencies of the Faculty of Arts and Sciences by its Dean (see pp. 103, 104). The difficulties arising from the increased size of the Faculty have been overcome by the creation of Administrative Boards, the organization of Divisions and Departments within the Faculty, and the appointment of more administrative officers with larger discretionary powers.

The accompanying table of enrolments in half-courses and whole courses provided by the Faculty of Arts and Sciences in 1904-05 is arranged by departments, the names of which are given in the column on the left, to the number of 27. Some of these departments, however, include subjects that are not perfectly described by the brief titles given; thus, astronomy is included under mathematics, landscape architecture under architecture, and metallurgy under mining. The title classics includes Greek and Latin.

It appears in this table that the departments resorted to by large numbers of students are classics, English, German, French, history and government, economics, philosophy, chemistry, and engineering. Mathematics and physics stand in a second rank, and all the other departments in a third rank. The comparative neglect of the natural sciences and the fine arts is striking.

TABLE IX.—FACULTY OF ARTS AND SCIENCES—  
ENROLMENTS BY DEPARTMENTS.

Department.	Enrolments in Half Courses.	Enrolments in Whole Courses.	Total.
Semitic . . . . .	21	172	182.5
Indic Philology . . . . .	19	..	9.5
Classics . . . . .	229	650	864.5
English . . . . .	1376	915	1603.
Public Speaking . . . . .	187	55	148.5
Germanic Languages, etc. . . . .	79	905	944.5
Romance Languages, etc. . . . .	96	1010	1058.
Slavic . . . . .	70	10	45.
History and Government . . . . .	619	1535	1844.5
Economics . . . . .	957	813	1291.5
Philosophy . . . . .	251	509	634.5
Education . . . . .	44	63	85.
Fine Arts . . . . .	..	222	222.
Architecture . . . . .	79	278	317.5
Music . . . . .	10	197	202.
Mathematics . . . . .	336	286	454.
Physics . . . . .	53	410	436.5
Chemistry . . . . .	298	599	748.
Engineering . . . . .	1320	516	1176.
Forestry . . . . .	43	17	38.5
Botany . . . . .	321	5	165.5
Zoölogy . . . . .	278	44	183.
Geology . . . . .	469	74	308.5
Mineralogy . . . . .	10	46	51.
Mining . . . . .	247	29	152.5
Anthropology . . . . .	44	236	258.
Anatomy . . . . .	..	139	139.
Total . . . . .	7456	9735	13,463.

The increase in the amount of summer vacation work done by undergraduates goes steadily on; and in the year under review the Faculty added to the number and variety of the summer courses which can be counted towards a degree (see p. 95).

In accordance with the custom of printing in these Reports once in five years a table showing the ages of students who entered the Freshman Class of Harvard College during the thirty years just elapsed, a table will be found in the Appendix (p. 347) of the ages of students who entered the Freshman Class in the years 1876 to 1905 inclusive. The table shows that the average age at admission has fallen slightly but steadily during the last five years, chiefly because the number of persons admitted to the Freshman Class when abnormally old has been diminishing. The figures of the last three years are, however, incomplete; for the table is constructed on the assumption that all persons who ever joined each class were admitted as Freshmen. Men who will enter to advanced standing are therefore still to be added to the figures of the last three years; and these men will probably raise the average age. It is a favorable sign that the number of persons who enter the Freshman Class between nineteen and twenty-three years of age is diminishing. For many years past it has been the opinion of the Faculty that the normal candidate for the A.B. or S.B. degree should enter the College or the Scientific School at eighteen. The perversions of athletic sports in schools and colleges have tended to hold boys back from the University until they have attained their full size and weight. A common impression in the minds of parents that a Freshman of nineteen or twenty has a better social chance at the University than a Freshman of seventeen or eighteen, and is, on the whole, safer both physically and morally, contributes to the unwise postponement of entrance on College life.

A table of the schools and colleges from which young men have entered Harvard College proper during the last ten years will be found in the Appendix, pages 359-370. In 1905, 159 schools and colleges, and a few private tutors, contributed the 528 persons who entered the classes of the College taken together. In 1900 the corresponding figures were 209 schools and colleges and 635 persons. Harvard College is fed by a great variety of institutions scattered widely over the country, in many of which the function of preparing boys for college is

only a subordinate one. Only thirteen schools (two public, seven endowed, and four private) sent more than six pupils each in 1905; and from these thirteen schools 209 persons entered the College, or two-fifths of the whole number that entered. The number of public schools which from time to time send some of their pupils to Harvard College is increasing.

In the ten years, 1876-1885, there were 82 such schools.

“	“	1881-1890,	“	96	“
“	“	1886-1895,	“	132	“
“	“	1891-1900,	“	163	“
“	“	1896-1905,	“	253	“

In 1895, 55 public schools (of which 36 were Massachusetts High or Latin schools) sent pupils to the College; in 1900, 84 public schools (of which 46 were Massachusetts High or Latin schools) sent pupils to the College, and of the other 38 public schools, nine were in New England, and twenty-nine outside of New England; in 1905, 71 public schools (of which 38 were Massachusetts High or Latin schools) sent pupils to the College, and of the other 33 public schools, five were in New England, and twenty-eight outside of New England. Ten years ago there were only thirteen such schools outside of New England. These figures show that the connection of Harvard College proper with Massachusetts High Schools and other New England High Schools is not as good today as it was five years ago.

The Dean of Harvard College reports (p. 105) the progressive decrease in the number of students registered in the Senior Class, and the corresponding decrease in the number of persons whose names appeared on the Commencement Programme of 1905 as recommended by the Faculty of Arts and Sciences for the degree of A.B. and also on the Catalogue list of registered Seniors. This progressive shrinkage in the Senior Class accounts for a large part of the eight deficits which have occurred during the last ten years. The shrinkage ought to have been counterbalanced by a gain in the size of the Freshman Class; but the obscure conditions under which the three years' degree has been developed have not permitted the College to realize this gain.

Persistent and partially successful efforts were made throughout the year by the Dean of Harvard College and his assistants to raise the standard of daily work among the less ambitious students under his care. The best evidence seems to show that in the lower half of each class four or five hours a day given to College engagements and to study are held to be a fair allowance. The Faculty and the Dean wish to raise this amount to at least seven hours a day (see p. 120).

The Faculty simplified and improved the rules for awarding the degree of Bachelor of Arts with distinction (p. 120), in the hope that a larger proportion of the students would aim at these honors than do so now. They also hoped that the new rules would invite students to do some systematic work during the summer vacation, and to make more careful adjustment of their courses; so that each individual's total course while in College should have greater unity. The rules are also intended to encourage students to indicate early in their College course their purpose to win a degree with distinction.

STATISTICS WITH REGARD TO 332 STUDENTS WHO HAVE  
EARNED THE DEGREE OF A.B. IN 3 YEARS.<sup>1</sup>

	No.	Per cent.
Took more than 6 courses in a single year . . . . .	2	0.6
Took 6 courses a year for 3 years . . . . .	21	6.3
Took 6 courses a year for 2 years, and less in the other year . .	104	31.3
Took 6 courses a year for 1 year, and less in the other years . .	114	34.3
Took less than 6 courses, every year . . . . .	91	27.4
	332	
Took work at the rate of 6 courses a year for only one year or at a lower rate for all three years . . . . .		
	205	61.7
Took 6 courses in the Freshman year . . . . .	112	33.7
Credited with courses at entrance, <i>or</i> for summer work, <i>or</i> both .	219	66.0
Had courses to their credit at entrance . . . . .	175	52.7
Obtained credit for summer work . . . . .	67	20.1
Had courses to their credit at entrance <i>and</i> obtained credit for summer work . . . . .	23	6.0
Had no entrance credits and no summer courses . . . . .	113	34.0
Of these 113 men :	Corresponding figures for 113 4-year men. <sup>2</sup>	
Had <i>A</i> or <i>B</i> in half or more of their courses	57	36
Had <i>C</i> or a higher mark in <i>all</i> their courses	54	22

<sup>1</sup> From three-year records completed in 1903, 1904, and 1905, respectively.  
<sup>2</sup> Taken in alphabetical order from the class of 1905.

One of the questions concerning the three years' course for the degree of A.B. which has interested the Faculty has been this: What proportion of the three years' men have been obliged to elect six courses a year, and what effect does the election of six courses a year have on the scholarship of the men who make such a choice? The facts stated in the following table are partial answers to this question. So far as they go, they are encouraging to the young men who desire to obtain the A.B. in three years. To accomplish this result it is by no means necessary to take six courses a year for three, or even two, years. Thus, only 6 per cent. of the 332 students reported on in the table took six courses a year for three years, and only 31 per cent. took six courses a year for two years. Sixty-six per cent. of the whole number of students reported on had credits toward the degree, derived from anticipated courses, or from summer courses, or from both. When, however, the standing of the 113 men who had neither entrance credits nor summer courses is examined, in comparison with the corresponding figures for 113 four years' men, it appears that the standing of the three years' men, even under these disadvantageous conditions, is decidedly higher than the standing of the four years' men. This table, therefore, demonstrates, first, that by utilizing all the existing facilities young men of good parts may get the Harvard A.B. in three years without making any unreasonable or disadvantageous exertions, and secondly, that the presence in the courses of instruction of young men who propose to get the degree in three years is not likely to impair in any way the quality of the courses, since the three years' men are, as a rule, better scholars than the four years' men. It is apparent that any young man who has made good use of the instruction offered in a good secondary school, and is then willing to use for purposes of study one-half of the College vacation time, can procure the Harvard A.B. with distinction in three years, without any over-exertion, and will also have had a better training for efficiency in subsequent work at his professional school or in business than if he had taken four years to get the A.B. degree.

In addition to the scholarships with stipend which are awarded for merit and need, Harvard College has, since 1896,

awarded scholarships of the first class but without stipend, under the title of John Harvard Scholarships, and scholarships of the second class without stipend, under the title of Harvard College Scholarships, since 1898. The accompanying table shows that, of the scholarships of the first class awarded in ten years, the scholarships without stipend number 161, against 312 with stipend, and that of the scholarships of the second class awarded in eight years there have been 439 without stipend, against 480 with stipend. This result is highly satisfactory. The men who need pecuniary aid have a constant stimulus to exertion which the men who need no aid lack. Nevertheless a large proportion of the men who stand highest in the College rank lists are men whose families can afford to pay for their sons' education. The saying that "C is a gentleman's grade," is evidently an imperfect defence for the idler in Harvard College.

Year Awarded.	John Harvard.	All others, Group I.	Harvard College.	All others, Group II.	John Harvard and Harvard Coll.	All others, Groups I & II.	Total of <i>all</i> in Groups I & II.
1896-97 . . .	8	15	..	80	..	95	103
1897-98 . . .	17	19	..	71	..	90	107
1898-99 . . .	20	22	71	67	91	89	180
1899-00 . . .	11	37	27	45	38	82	120
1900-01 . . .	15	36	55	52	70	88	158
1901-02 . . .	13	28	40	55	53	83	136
1902-03 . . .	16	44	49	48	65	92	157
1903-04 . . .	27	44	61	59	88	103	191
1904-05 . . .	23	31	49	74	72	105	177
1905-06 . . .	11	36	87	80	98	116	214
Totals . . .	161	312	439	631	600	943	1543

The Dean of the Lawrence Scientific School (p. 125) gives an account of the method, used in that School for about ten years past, of aiding poor students by means of small loans, made with great care after personal interviews with the recipients, and with the expectation on the part of every recipient that the loan is to be repaid within a few years after graduation. The Dean believes that this method, when carefully administered in a personal way, has great advantages over scholarships.



In his experience, scholarship money is seldom repaid, while many small loans are. The repayment of a loan, with interest from the time of graduation, is wholesome for the borrower, and it adds to the resources of the School for aiding poor students.

The Scientific School is prompt and free in putting its students on probation for inadequate performance of duty. Hardly any other disciplinary measures are needed.

On recommendation of the University Council the Corporation voted to change the name of the Graduate School to "The Graduate School of Arts and Sciences," and this vote was duly consented to by the Board of Overseers. It was not expected that this vote would change the name of the Graduate School except in official usage. The motive of the change was the feeling of the Schools of Divinity, Law, and Medicine that they too were graduate schools, in the sense that they require a preliminary degree for admission. There is, however, a distinction between those three professional schools and the Graduate School of Arts and Sciences, in that the graduate who enters one of the professional schools commonly begins there a new set of studies, whereas in the Graduate School almost every student pursues there studies he has already pursued for several years. In other words, the first-year studies of the Divinity, Law, and Medical Schools are elementary as regards those topics, whereas in the Graduate School most of the instruction may fairly be called advanced as respects the several fields of knowledge therein cultivated.

The Graduate School of Arts and Sciences is in a flourishing state. The terms of admission to the School have been simplified; the resort of students to it from all parts of the country has increased; and the percentage of men who hold the degree of Bachelor of Arts, rather than the newer degrees, is high (over eighty per cent.) and constant. Two-thirds of the students in the year under review were born outside of New England.

The new opportunity to take degrees in the middle of the year was used by 89 persons in March, 1905. In the two

years since this practice began the degrees taken have been distributed as follows : —

	A.B.	S.B.	A.M.	S.M.	Ph.D.	D.M.D.	M.D.	LL.B.	S.T.B.	TOTAL.
1904 . .	19	3	2	0	1	1	12	1	1	40
1905 . .	45	11	8	1	1	2	17	4	0	89

Candidates for the degrees of A.B., A.M., and Ph.D. can, under existing arrangements, easily bring their studies to a natural close at the middle of the year ; so that the number of persons taking a degree in March may be expected gradually to increase. There need be no fear whatever that the regular Commencement Day will be in any way impaired by this mid-year process. There are sound reasons for the European practice of conferring degrees at more than one time during the year ; and several American universities have recently adopted the practice to advantage.

At the last meeting of the Corporation in the year under review a scheme was adopted for the exchange of students' privileges between Harvard University and the New England Conservatory of Music, whereby students of high standing in certain musical courses offered by the Faculty of Arts and Sciences should be given access to orchestral exercises and other privileges at the Conservatory, and on the other hand, qualified students in the latter institution should be admitted to certain courses offered by the Faculty of Arts and Sciences, and to library privileges. This scheme was tentatively adopted on the part of the University, with the understanding that the question of giving credit toward a degree in Harvard University for work done by students of the University at the Conservatory of Music should be referred for settlement to the Faculty of Arts and Sciences. Selected students from the University had for two years been receiving valuable privileges at the Conservatory ; so that the Corporation had already obtained some knowledge of the practical advantages which the Conservatory could offer to Harvard advanced students of musical theory.

In November, 1903, the Corporation sent to the Board of Overseers a vote establishing the David A. Wells Professorship of Political Economy ; but before acting on this vote of the

Corporation the Overseers desired to secure from the Supreme Court of Massachusetts a decision that the proposed use of the surplus income of the trust fund given by the will of David A. Wells of Norwich, Connecticut, to the Corporation of Harvard College was a proper and lawful use. In January, 1905, a decree was handed down by the Court whereby "It is ordered, adjudged, and decreed that the Corporation of Harvard College pay out of the income annually \$500 for a prize as directed by the said will, and under the terms thereof, and pay such further sums as may be necessary for the publication and distribution of the essay for which the prize may be awarded, and that subject to the aforesaid payments the said Corporation apply the income toward paying a suitable salary to a professor to be known as the David A. Wells Professor of Political Economy, whose duty it shall be to give instruction on those topics which the said David A. Wells named in his will as subjects for said essay." Thereupon the Corporation voted to return to the Board of Overseers the vote of November 23, 1903, establishing the David A. Wells Professorship, and the Overseers duly consented thereunto. Professor Thomas Nixon Carver was subsequently elected to this professorship. An important and permanent subject of university instruction is thus provided with a substantial endowment.

The forty-three students enrolled in the Divinity School in the year under review represented twenty-five colleges and ten theological seminaries. In the Summer School of Theology, which numbered sixty-one persons, eleven different denominations were represented. The teachers in the Summer School came from five different institutions, but a majority of the lectures were given by members of the Harvard Faculty. For instruction offered by the Divinity School there were three hundred and fourteen enrolments by students not belonging to the School but registered in other departments.

The Frothingham Professorship Fund in the Divinity School having reached by accumulation \$53,203.14, it seemed to the Corporation desirable that its income should begin to be used towards the payment of the salary of a professor. With the consent of the Board of Overseers, the Frothingham Professor-

ship of the History of Religion was established, and Professor George Foot Moore was elected to the professorship. The subject which Professor Moore is to deal with conforms to the desires of the founder; and the Corporation provided for a stated annual increase in the professorship fund by voting that "until further order of this Board \$500 of the income of the Frothingham Professorship Fund be credited annually to the principal of the fund." Upon this foundation Professor Moore offered in 1904-05 courses in the History of Pre-Christian Hebrew Literature, and in the History of Religions in Outline. He also gave a summer course on Judaism and The Beginnings of Christianity. During the present year he gives a course on the History of Jewish Literature from the Earliest Times to 200 A.D., and a half-course on Judaism from 198 B.C. to modern times; and he repeats his course on the History of Religions in Outline.

The extraordinary prosperity of the Law School continued during the year 1904-05, the number of students being larger than ever and the number of colleges represented in the School by their graduates being also larger than ever (p. 176). The library continues to increase rapidly in number of volumes and in value. The printing of the first volume of the catalogue of the library has begun.

Further studies of the plans of the new building have resulted in considerable improvements, the final plans, which have now been approved by the consulting committee of architects, being much more satisfactory than any of the preceding plans. It is now hoped that construction will begin next spring.

The complete success of the policy of this School in demanding a preliminary degree for admission, and in maintaining a thorough three years' course of study for the degree, should be very encouraging to other American universities which desire to furnish the legal profession with well-trained members whose ideals are high and capacities large.

The deficit of the Medical School in 1904-05 was again large (\$24,853.92), and this deficit, like the former deficit, had to

be charged to the Medical School balance, reducing that laboriously accumulated balance to the small sum of \$5,560.57 on July 31, 1905. The number of students and the receipts from students continued to decline, while the expenditures could not be correspondingly reduced. The School is sure to have another heavy deficit for the current year, in spite of some serious reductions of expenditure; and this new deficit the remaining disposable balance of the School will not be sufficient to meet.

During the year under review the Faculty adopted for the fourth year a free elective system with a considerable range of options. This system has gone into force during the current year, causing some increase of cost because of the necessary provision of additional instruction. The choices made by members of the fourth class during the current year show that the majority of the students under free election will choose those subjects which are the fittest elements in a prescribed course. This result is very similar to that which appears in Harvard College, where, however, the fit elements of conceivable prescribed courses are much more numerous.

An advantageous change was made when the graduate and summer courses heretofore in charge of two different committees were placed by the Faculty in the hands of one committee. The number of students attending each of these two sets of courses has sensibly increased of late; but is by no means commensurate with the value of the instruction and clinical opportunities offered. The summer work attracts some students from a distance.

The activity of the Medical School in medical research was fully maintained in all of the laboratories by both teachers and students, as the long list of publications in the report of the Dean of the Medical School (p. 183) abundantly proves.

The new buildings of the School are approaching completion; so that the Faculty expects the current year to be the last to be spent in the building on Boylston Street. The President and Fellows will not know how much of the great gifts made to the Medical School Undertaking as a whole in 1901-03 will remain as an endowment for maintenance of the School, until the Boylston Street estate has been sold, and the

contracts with the several neighboring hospitals concerning the land bought in 1900 by the President and Fellows for the Medical School and the hospitals have been carried into effect. The Undertaking was conceived on a large scale, and with more regard to future needs and opportunities than is usual in university enterprises.

The following table is intended to exhibit the various measures in which the universities named recruit their Medical Schools and Law Schools from persons who have already received a preliminary degree in arts or science.<sup>1</sup> Harvard is the only one of these institutions which requires a preliminary degree for admission to its professional schools; but in several other institutions, notably at Chicago and Columbia, a considerable proportion of holders of a preliminary degree is to be found in the Schools of Law and Medicine. State universities are as a rule deficient in this respect. An important aspect of this matter is the fact that the strongest support any university can give to the preliminary degrees in arts and science—its own, or those of other institutions—is the requirement of such a degree for admission to its professional schools. There would be no question about the future maintenance of that peculiarly American educational institution

TABLE X.

1904-05. Universities.	Medical Schools.			Law Schools.		
	No. of male students.	Holders of a preliminary degree.		No. of male students.	Holders of a preliminary degree.	
		Number.	Per cent.		Number.	Per cent.
Chicago . . . . .	238	106	44.5	157	94	59.9
Columbia . . . . .	562	250	44.5	343	282	82.2
Cornell . . . . .	355	54	15.2	224	23	10.3
Harvard . . . . .	307	267	87.0	758	755	99.6
Illinois . . . . .	601	92	15.3	129	9	7.0
Michigan . . . . .	342	79	23.1	867	109	12.6
Northwestern . . . . .	591	114	19.3	225	70	31.1
Pennsylvania . . . . .	546	171	31.3	301	105	34.9
Yale . . . . .	139	19	13.7	234	82	35.

<sup>1</sup> The figures are obtained from the catalogues of the several universities by counting names to which a Bachelor's degree, or its equivalent, is affixed.

called a college, if the universities of the country would require an A.B. or an S.B. for admission to all their professional schools.

As has been pointed out for several years in these Reports, the University Library greatly needs more shelf-room, either within or without the Yard, more working-rooms, and an additional endowment. It ought to be made independent of the general budget of the University, by having an income of its own adequate to pay its salaries, wages, and general expenses. The Library is a permanent and indispensable part of the University's equipment; and its administration should be stable, and unembarrassed by the rise or fall of the total of tuition fees, or the increase of expenditures in other departments of the University. Opinions differ as to whether a university library must try to keep promptly accessible hundreds of thousands of books which have no intrinsic value, or very little present value for the passing generation of students; but there is no difference of opinion concerning the constant need in a university library of learned librarians, skilful cataloguers, and numerous supervisors and attendants, all of whom should have proper space to work in and every mechanical facility which ingenuity can devise. The stream of students unskilled in the use of books which flows through an active and expanding university needs a great deal of help at the library; and no other university expenditure can be more profitable than expenditure for such help.

That portion of the report of the Librarian which relates to the shelf department (p. 227) tends to prove that if 100,000 "dead" books now in Gore Hall, or in the basements of Perkins Hall and Robinson Hall, should be stored in a cheap fireproof building on cheap land within half a mile of the Yard, a single attendant at the new building, supplied with a telephone, could easily meet all demands for the "dead" books under his care by making two trips a day between the new storehouse and Gore Hall. This deliverance would make Gore Hall, with some enlargement on the north side for working rooms, conveniently serviceable for a good many years to come, and would greatly facilitate the delivery and use there of



the remaining live books. Moreover, it would establish an economical and feasible policy for the future.

The Librarian describes in a very interesting way (p. 214) the circumstances under which the valuable library of Professor Charles Eliot Norton was acquired, and the Norton Memorial Fund for the purchase of books was established. Better memorials of a highly serviceable and distinguished university career cannot be imagined.

The chemical laboratories in Boylston Hall have been for years over-crowded, and in particular the accommodations there for advanced students and for research have been insufficient. As a temporary remedy for these evils, the Corporation assigned to the Chemical Department the rooms in Dane Hall, formerly occupied by the Harvard Coöperative Society. Two excellent laboratories, one in the basement and the other on the first floor, were fitted up in Dane Hall during the past summer; and the spaces gained in Boylston Hall by transferring large elementary classes to the new laboratories were re-arranged for the better accommodation of the teachers and students who will remain in that building. These improvements were effected at a cost of about \$5,000. If need be, the upper story of Dane Hall, recently vacated by the Department of Philosophy on the removal of its psychological laboratory to Emerson Hall, can be used for a further enlargement of the chemical laboratories; but for the present the new accommodations provided last summer will suffice. The cost of carrying on the Chemical Department is necessarily increased by these changes; but the work of the Director of the Laboratory, Professor Sanger, and indeed of all the teachers in the Chemical Department, has been much facilitated.

The Mineralogical Museum, which is under the charge of Professor Wolff, has had in operation for nearly a year an admirable lighting of the collection by means of electric lamps. The cost of the lights—about \$250 a year—is borne by a generous friend of the Museum. The beauty of the result suggests strongly a similar lighting for many other of the exhibition rooms in the University Museum.



The Curator of the Museum describes the extraordinary beauty and size of the collection of American tourmalines now on exhibition in the Museum, saying of it that it is probably the largest and most valuable collection of tourmalines ever brought together for exhibition.

The Mineralogical Cabinet is the oldest of all the natural history collections belonging to the University and is in many other respects remarkable, but its endowment is utterly inadequate.

The Fogg Art Museum has in late years received a considerable number of valuable original works of art — paintings, etchings, bronzes, sculptures, and vases — and it seems likely that it will continue to be enriched in this way. The original object of the Corporation was to collect in this Museum chiefly photographs, prints, casts and other reproductions; but reproductions cannot teach the effects of color, lustre, and translucence, so that it was obviously desirable that the collection should contain a few first-rate pictures, vases, sculptures, and textile fabrics. These objects need not be numerous, but they ought to be as good as possible, and there should be enough of them to attract the attention and excite the interest of the successive classes of young men who pour through the University. This stream of youth is to supply patrons of art and trustees of museums for many American communities; so that there should exist in Cambridge adequate means of interesting fit young men in one or other of the fine arts.

It is of course impossible that the Fogg Art Museum should ever be large, or should ever compete in any respect with the Boston Museum of Fine Arts, or with such an institution as the Metropolitan Museum of Art in New York. Its objects are closely limited to purposes of University instruction; and it has no funds with which either to procure or to maintain large collections.

At the close of the year an indefinite leave of absence was given to Mr. Lythgoe, Instructor in Egyptology at the University, and Curator of the Egyptian Collections at the Boston Museum of Fine Arts, in order that he might take charge, in connection with Dr. George A. Reisner, of promising excavations in Egypt, the artistic product of which should go to the

Boston Museum, while the publication of its results should be made in the name of the University. This coöperation between the two institutions is to be of indeterminate length, but the first arrangements were made for one year.

The Germanic Museum continues to receive interesting gifts illustrating the history of Germanic culture. Although it was only opened to the public on two week days and on Sunday afternoons, it was visited during the year by 23,000 persons. The attention of the Overseers is invited to the Curator's remarks (p. 317) on the demonstrations of German good will toward America in connection with this Museum, and the desirability of reciprocating these demonstrations by endowing the Museum with American money.

An interesting event of the year 1904-05 was the consummation of the plan, then two years old, for a regular annual interchange of professors between German universities and Harvard University. This plan was, in general, an outgrowth of the project for developing a Germanic Museum at Harvard. An association organized on this side of the ocean had already, in 1901, raised a modest sum of money, and made collections which served as a beginning, when in 1901 the German Emperor announced his great gift to the Germanic Museum at Harvard. Prince Henry of Prussia brought the illustrated catalogue of the Emperor's gift to Cambridge in March, 1902, and made a formal presentation to the University of this unique collection on the 6th of the month. Shortly after, by invitation of Professor Kuno Francke of Harvard University, then on leave of absence in Europe, there was held in the Königliche Kunstgewerbe Museum in Berlin a meeting to consider ways and means for bringing about some kind of popular gift to the Harvard Germanic Museum as an appropriate supplement to the gift of the Emperor. There were present at this meeting, among others, the director-general of the Prussian Museums, the director of the Kunstgewerbe-Museum, the Rector of Berlin University, the director of the Deutsche Bank, and several of the most eminent professors of Berlin University. Dr. Francke, being invited to describe the aims and method of the Harvard Germanic Museum, said that the Museum was

conceived of as an object-lesson in German culture, as an historical conspectus of the national development, and as a connecting link between German and American intellectual life. He emphasized the hope that in course of time endowments would be attached to the Museum which would make it possible for the University to invite German scholars to give courses of lectures at the Museum on German art, literature, and philosophy. In the midst of the discussion which followed, Dr. Althoff, Ministerial-director, joined the meeting, and expressed himself strongly in favor of the whole undertaking, adding that the proposed popular gift to the Museum would be insignificant compared with the intellectual bonds to be established between the two countries by the proposed lectureships. This meeting resulted in the formation of the committee which subsequently gave to the Museum an admirable collection of galvano-plastic reproductions of the best specimens of the German silver-smith's art from the Middle Ages to the Eighteenth Century. Later in the spring Professor Francke had several conferences with Dr. Althoff which contributed to form in Dr. Althoff's mind the plan for an exchange of professors which two years later was carried into execution.

In 1903 a considerable number of German university professors were invited, through Professor Münsterberg of Harvard, acting for a committee of the St. Louis Fair, to attend a congress of scholars to be held at St. Louis in September, 1904, as part of the Louisiana Purchase Exposition. Many of these invitations were accepted, and many of the German visitors embraced the opportunity to visit some American universities as they returned from St. Louis to the Atlantic seaboard. Several of the most distinguished scholars visited Harvard University. On their return home they seconded strongly Dr. Althoff's plans and hopes. In November, 1904, the following letter was received from Dr. Althoff: —

[*Translation.*]

Address :

NOVEMBER 12TH, 1904.

Berlin W. 64

Unter den Linden 4,<sup>1</sup>.

TO THE PRESIDENT OF HARVARD UNIVERSITY : —

SIR, — From communications that have reached me from various quarters, and in particular from Professor Dr. Harnack, I may be allowed to

infer that it will be in accordance with your intentions if I take the liberty of submitting to you herewith the draft of an agreement between the University of Berlin and Harvard University concerning the mutual exchange of professors. I respectfully request you to examine the draft and kindly to inform me of your attitude with regard to it. If, as I hope, an agreement of this kind should be reached, I should deem it advisable to begin carrying it into effect even as early as next year, that is, for the summer semester or the winter semester.

I have the honor to remain, Sir,

Your obedient servant,

(Signed) ALTHOFF.

The agreement referred to in this letter (see Appendix, p. 346) provided for an annual exchange of professors for about one-half of the academic year, the regular salary of each professor to be continued, and each professor to be allowed \$1,200 in addition to his salary, to cover travelling and living expenses.

Harvard University immediately (December 2, 1904) accepted the proposed exchange for the academic year 1905-06, and on January 12th opened negotiations with the Rector of the University of Berlin for the exchange of one Harvard professor for one German professor in the year now current. Dr. Althoff selected the first half of the year as the period of residence for the German professor at Cambridge and the Harvard professor at Berlin. The names of four Harvard professors having been presented (January 12, 1905) to the Rector of Berlin University as suitable for the first service at Berlin, choice was made of Professor Francis Greenwood Peabody, who proposed to lecture on the Ethics of the Social Questions. On the 10th of March, 1905, Dr. Althoff proposed the names of five German Professors among whom Harvard University should make choice of the first visiting professor. The University selected Dr. Wilhelm Ostwald, the eminent physical chemist. Dr. Ostwald's subjects at Cambridge, as defined after some correspondence, were to be the Philosophy of Natural Science (given in English), the Fundamental Conceptions of Chemistry (given in English), and Catalysis (given in German). Professor Peabody's courses in Berlin were to be a course given twice a week in German on the Modern

World and the Christian Character, and a course given four times a week in English on Social Ethics in the United States. At the opening of the current academic year both visiting professors began the work thus planned; and at both universities their work has proved interesting, stimulating, and successful.

The present condition of the Observatory is highly interesting. Its income is all expended productively, but on routine work which it has devised or accepted and is bound to execute. The maintenance of its invaluable collection of photographs, which contains the only existing history of the stellar universe for the past twenty years, requires much time and money. It sees attractive opportunities for additional investigations; and a moderate increase in income would permit its work to be very profitably extended. The grant of \$2500 by the Carnegie Institution in 1903 for a single year resulted in the accumulation of a great amount of material. Such a moderate gift as \$50,000, to be expended in the course of the next ten years, would be extraordinarily productive; because experienced direction, skilful observers and computers, and a varied instrumental equipment are at hand. The Director points out that the salaries of the assistants in the Observatory are very low, and that there is no provision for their increase, the new Teachers' Endowment Fund not being available at the Observatory.

All the laboratories, museums, and scientific establishments of the University need further endowment, in order that their present resources may be better utilized and may be added to systematically and continuously. This need has already been referred to in connection with the Observatory and the Mineral Cabinet, but it is just as obvious and just as keen in the Arnold Arboretum, the Botanic Garden and Museum, the Gray Herbarium, the Peabody Museum, the Semitic Museum, the Fogg Art Museum, the Chemical Laboratory, and the Jefferson Physical Laboratory; and the laboratories for mining and metallurgy and for zoölogy have similar needs. All these establishments have large possessions in buildings, material,

and equipment, but they all need income for running expenses and for gradual enlargements. Such establishments need unfailing and predetermined incomes. Arrests and checks, though temporary, are very injurious; and as has already been explained concerning the Observatory, moderate additions to the income of such establishments will always be productive out of all proportion to the amount of income added. In all the scientific establishments of the University there are opportunities for new and better work which are overwhelming in number and variety; but they have to wait for the means to utilize them.

The Corporation having come into possession of two travelling fellowships in Architecture, each of the annual value of \$1,000, one paid from the income of the Nelson Robinson Jr. Fund, the other from the Julia Amory Appleton Fund, adopted in January, 1905, regulations for the award of these two valuable fellowships. The holder of the Nelson Robinson Jr. Fellowship must not be more than twenty-six years old at the time of his appointment; the holder of the other must not be more than thirty years old. These fellowships will ordinarily be offered for competition in alternate years, and the holders will on application be appointed for a second year when they have done creditable work during the first year. They are open for competition to Bachelors of Science in Architecture of Harvard University who have taken the degree with distinction, or who have completed with distinction a year of graduate study in architecture at the University. The selection will be made by a competitive examination in the History of Architecture and in Design. (For the regulations in full see Appendix, p. 348.)

At a meeting of the President and Fellows on March 13, 1905, the following communication was read:—

DR. H. P. WALCOTT, Acting President:—

DEAR SIR, — Harvard University has subscribed by friends the sum of \$100,000 to the endowment of the American Academy in Rome, and is entered as one of ten subscribers of \$100,000 each. I will see that the money is forthcoming at the right time, and am

Very truly yours,

HENRY L. HIGGINSON.

It was thereupon voted "that the thanks of the President and Fellows be sent through Mr. Higginson to the friends of the University whose generous contribution has enabled Harvard University to become a subscriber to the endowment of the American Academy at Rome." This liberal and unusual gift in the name of the University establishes a permanent connection with the new American Academy at Rome, a connection which will be valuable, it is hoped, to a long series of American students of the fine arts, and especially of architecture. The University has already coöperated to the best of its ability for many years with the American School at Rome for the study of the classics and of classical archaeology.

In April, 1905, the survivors of the Class of 1846 transferred to the Corporation their class fund, amounting to \$10,571.07, to be held as a separate fund in the general investments, and its income to be payable on demand to the secretary of the class or to any member of the class whenever there shall be no secretary. Upon the death of the last surviving member, the amount of the fund is then to be transferred to the Francis James Child Memorial Fund now held by the College. Professor Child was a member of this class. (See Appendix, p. 349.)

In the following month the Corporation received an anonymous gift of peculiar interest, being an ample endowment of the courses on social ethics originated and directed by Professor Francis Greenwood Peabody. The principal of the fund is \$100,000; the income is to be used for the benefit of the courses on the Ethics of the Social Questions in addition to those expenditures on behalf of these courses which the University has heretofore made. It may be applied toward the provision and care of books, photographs, drawings, and models; toward a special library and social museum; toward the payment of additional instructors, assistants, and curators; to the encouragement through prizes, fellowships, and other rewards, of special researches or publications; or for lectures, or new forms of instruction. The same benefactor contributed largely to the erection of Emerson Hall, in which building Professor Peabody's courses and collections are to be accommodated. He has therefore provided for this department,



first, spacious quarters, and then an annual income which assures it adequate maintenance and steady improvement. No more effective promotion of a valued kind of instruction can be imagined; and since the subject is one of permanent interest, the benefaction will do perpetual good.

Another remarkable gift was received at the same time. Mr. Jacob H. Schiff, of New York, offered to defray the expense of excavations in Palestine under the auspices of the Semitic Museum of Harvard University during a term of five years at a total outlay of \$50,000, and offered in addition the sum of \$5000 for preliminary expenses. The Corporation gladly accepted this generous offer, and gave the direction of the expedition to Dr. George A. Reisner, who, beside being an accomplished scholar in Semitic languages, has had, in Egypt, large experience in exploration. The success of the expedition depending wholly on Dr. Reisner's procuring from the Turkish Government a permit to make excavations in Judaea, or Samaria, or some other part of the Palestinian field, Dr. Reisner has already visited Constantinople, and made application for the needed permit with the valuable aid of the American minister to the Turkish Government. In asking for this permit the University has agreed that every object of interest brought to light through Dr. Reisner's explorations shall be delivered to the Turkish Government. It does not ask permission to carry any such objects out of Turkey. The scientific objects which Mr. Schiff and the University have in view can be accomplished through discovery and description, without transferring to foreign parts any of the objects; unless, indeed, by the good will of the Turkish Government some duplicate objects should be given to the Semitic Museum at Harvard.

Another gift of an unusual sort was received by the Corporation in June, 1905. It was a gift of \$50,000 in memory of Walter Channing Cabot from his widow and their children. This gift is to be held as a permanent fund which will support a Walter Channing Cabot Fellowship, the fellowship and the income of the fund to be given to any professor or instructor in the general field of literature, history or art, either for life or for a term of years, not in substitution for any part of his



regular salary, but in addition thereto. It is the desire of the givers to provide "an additional remuneration to some distinguished man in recognition of his eminence." The probability is that this fellowship and its income will be awarded to some full professor of the University whose salary will thereby be increased by the income of \$50,000. The fellowship will therefore be a prize held for a long period, or for life, by some peculiarly valued teacher or producer.

The American game of foot-ball as now played is wholly unfit for colleges and schools.

(1) It causes an unreasonable number of serious injuries and deaths; not one in five of the men that play foot-ball several seasons escape without injury properly called serious, and of the twenty to thirty picked players who play hard throughout a season hardly a man escapes serious injury. The public has been kept ignorant concerning the number and gravity of these injuries, the prevailing practice among coaches and players having been to conceal or make light of the injuries sustained. Many of the serious injuries are of such a nature — sprains, strains, wrenches, dislocations, ruptures of ligaments and muscles, and shocks to the brain — that in all probability they can never be perfectly repaired.

(2) Violations of the rules of the game by coaches, trainers, and players are highly profitable, and are constantly perpetrated by all parties.

(3) In any hard-fought game many of the actions of the players are invisible to the spectators, and even to the referee and umpire; hence much profitable foul play escapes notice.

(4) The game offers many opportunities for several players to combine in violently attacking one player.

(5) There is no such thing as generosity between combatants, any more than there is in war.

(6) Acts of brutality are constantly committed, partly as results of the passions naturally roused in fighting, but often on well-grounded calculations of profit towards victory.

(7) As a spectacle, for persons who know what the game really is, foot-ball is more brutalizing than prize-fighting, cock-fighting, or bull-fighting. Regarded as a combat between

highly trained men, the prize ring has great advantages over the foot-ball field; for the rules of the prize ring are more humane than those of foot-ball, and they can be, and often are, strictly enforced. The fight in a prize ring between two men facing each other is perfectly visible, so that there are no secret abominations as in foot-ball. Yet prize-fighting is illegal.

(8) The game sets up a wrong kind of hero — the man who uses his strength brutally, with a reckless disregard both of the injuries he may suffer and of the injuries he may inflict on others. That is not the best kind of courage or the best kind of hero. The courage which educated people ought to admire is not that reckless, unmotivated courage, but the courage that risks life or limb to help or save others, or that risks popular condemnation in speaking the truth, or in espousing the cause of the weak or the maligned.

All these evils of foot-ball have now descended from the colleges into the secondary schools, where they are working great moral mischief. It is clearly the duty of the colleges, which have permitted these monstrous evils to grow up and to become intense, to purge themselves of such immoralities, and to do what they can to help the secondary schools to purge themselves also. Intercollegiate and interscholastic foot-ball ought to be prohibited until a reasonable game has been formulated and thoroughly exemplified in the practice of individual institutions. It is childish to suppose that the athletic authorities which have permitted foot-ball to become a brutal, cheating, demoralizing game can be trusted to reform it.

The Medical Visitor reports that ten students in the Cambridge departments of the University died during the year — eight of disease, and two by accident. Of these ten persons, four died at the Infirmary, and six at their homes or otherwise at a distance from Cambridge.

The use of the Stillman Infirmary was much increased during the year, because of a large increase in the number of ward patients. This increase is a result of the new system of charging each student in the Cambridge departments four dollars a year as an Infirmary fee, this fee entitling him to a fortnight's treatment at the Infirmary in any one academic year. The

product of this fee, added to the income of the funds belonging to the Infirmary, is sufficient to maintain the Infirmary in a thoroughly satisfactory manner.

On the petition of the trustees and officers of the Harvard Union, that the membership dues be chargeable on term-bills, the Corporation agreed that this charge should hereafter be entered on the term-bills, although they had twice before refused this request. The effect justified the anticipations of the trustees and managers of the Union ; for the active membership has increased by more than one-third during the current year. The comparative figures of 1904 and 1905 are as follows (in November) : —

	1904.	1905.
Active . . . . .	1345	2027
Associate . . . . .	557	636
Non-Resident . . . . .	552	573
Student Life . . . . .	55	64
Graduate Life . . . . .	964	1023
	<hr/>	<hr/>
	3473	4323

Graduates may best help the Union by becoming life members ; for all the life-membership fees are funded. They therefore constitute a welcome endowment for the Union. Since the value of the Union depends on its large size and democratic quality, it is a fair object for moderate endowment.

At the end of the year 1874–75, the first year that the Harvard Dining Association used Memorial Hall, the debt of the Association to the University amounted to \$47,219.75, all of which had been spent for construction and equipment. The Association has always paid interest on this debt and an annual sum to reduce it. Accordingly, on the 1st of August, 1901, the debt had been reduced to \$12,522.66. In that summer the Association made large improvements in the Hall and basement — among them a solid fireproof floor for the Hall itself, in place of the original hollow wooden floor. In consequence the debt stood on August 1st, 1902, at \$46,224.69. In the year now under review further improvements have been made at large cost in the Hall, the basement, and the entire appara-

tus for heating, ventilating, refrigerating, lighting, washing, and cooking. A one-story addition, in harmony with the main building, was built along the whole north side of the Dining Hall, with its floor on a level with the floor of the Hall. A new serving-room was thus secured, and the seating capacity of the Hall could then be enlarged by removing all the fixtures for serving purposes which had encumbered the Hall on its south side. The basement of this addition was available for enlarging the kitchens, laundry, storerooms, and so forth. Thereupon the whole basement was re-arranged, reconstructed, and refitted, with the result that the work of the Association can now be done more satisfactorily, and in proportion to its amount more economically than before. The Dining Hall itself can seat 108 more persons than before, and is better lighted and ventilated, and much quieter. The debt of the

TABLE I.  
AVERAGE PER MAN PER WEEK.

	1903-04.		1904-05.		1905-06.
	1st hf.	2d hf.	1st hf.	2d hf.	Sept. 27 to Jan. 1.
Total General Board (actual cost) . .	\$2.63	\$2.75	\$2.61	\$2.81	\$2.81
Consisting of :					
1. Items varying (a) nearly directly as Betterments to Plant, and (b) nearly inversely as Number of Members.					
(a) Sinking Fund (reduction of debt)	.029	.038	.043	.048	.164
(b) Interest on Debt @ 4.5% . . . .	.039	.042	.054	.059	.168
2. Items varying nearly inversely as Number of Members alone.					
(a) Interest on Advances for Running Expenses . . . . .	.037	.094	.045	.048	.039
(b) Service . . . . .	.88	.92	1.06	1.06	1.11
(c) Coal . . . . .	.12	.11	.12	.12	.14
(d) City Water . . . . .	.02	.02	.01	.006	.019
(e) Repairs . . . . .	.06	.08	.10	.09	.03
(f) All Other Expenses, except Pro- visions . . . . .	.22	.23	.27	.34	.18
(g) Total General Board, except Pro- visions . . . . .	\$1.41	\$1.54	\$1.70	\$1.78	\$1.85
3. Provisions charged to general board (being Total Provisions less those paid for by Coupons and Slips) . .	1.22	1.21	.91	1.03	.96
	\$2.63	\$2.75	\$2.61	\$2.81	\$2.81

TABLE II.  
AVERAGE PER MAN PER WEEK.

	1903-04.		1904-05.		1905-06.
	1st hf.	2d hf.	1st hf.	2d hf.	Sept. 27 to Jan. 1.
Coupons received for					
(a) Meat, Fish, and Eggs . . . . .	\$ .98	. .	\$ .90	\$ .74	\$ .78
(b) Desserts . . . . .	.09	. .	.45	.60	.57
(c) Total Coupons received . . .	\$1.07	\$1.36	\$1.35	\$1.34	\$1.35
(d) Slips received for "Extras" . .	.48	.61	.53	.65	.43
(e) Total Expenditure controlled by each member himself . . .	\$1.55	\$1.97	\$1.88	\$1.99	\$1.78
(f) Provisions charged to General Board (Table I, 3) . . . . .	1.22	1.21	.91	1.03	.96
(g) Total Provisions Used, including those for Employés . . . . .	\$2.77	\$3.18	\$2.79	\$3.02	\$2.74
(h) Balance of General Board (Table I, 2 (g)) . . . . .	1.41	1.54	1.70	1.78	1.85
(k) Total Average Cost of Board to each member . . . . .	\$4.18	\$4.72	\$4.49	\$4.80	\$4.59

TABLE III.

	1903-04.		1904-05.		1905-06.
	1st hf.	2d hf.	1st hf.	2d hf.	Sept. 27 to Jan. 1.
(1) Seating Capacity of Memorial Hall	772	772	772	772	880
(2) Limit of Membership . . . . .	1300	1300	1158*	1158*	1320*
(3) Average Membership . . . . .	1299	1243	1139	1105	1243
(4) Total Comparable Expenses — be- ing general board, less provisions, sinking fund and interest on debt (Table I, 2 (g) less 1 (a), (b)) . .	\$1.34	\$1.46	\$1.60	\$1.67	\$1.52
(5) What above item (4) would have been, if membership had been con- stant at 1200 . . . . .	1.45	1.51	1.52	1.54	1.57

Hall has increased to \$181,096.96 (1 January, 1906); but the fixed charges being borne by a larger number of members, and some of the running expenses being reduced by the efficiency of the new apparatus, it is expected that the price of board for frugal members will not be appreciably affected.

\* Fifty per cent. more than the number of chairs.

The foregoing figures show in some detail the distribution of the cost per week to each member. It will be remembered that for two years past the Hall has been conducted on the following principles — meat, fish, and eggs are paid for *à la carte* at cost; for all other food and for the running expenses a general charge per week is made which is the same for all members; and tips to waiters are prohibited. This method is the most successful which has ever been applied to the feeding of large numbers of students in Cambridge as respects efficiency, economy, and adaptability to a great variety of tastes and purses. As a method it is apparently superior to that of Randall Hall, which is essentially an *à la carte* restaurant, with “combination” meals at specified prices which are all low, and student waiters.

The work of the Appointments Secretary is described in a clear and interesting way in his report (p. 353). As his function becomes better known, the opportunities offered through him to graduates and undergraduates of Harvard University increase in number and variety, and the annual value of the positions secured by them through his office rises. The question will soon arise whether this office ought not to be made self-supporting by charging a fee for each permanent position obtained. The office was copied from Oxford University; but there a fee proportionate to the value of the place secured has always been charged.

The serviceableness of the office will depend in the long run on the frankness and discrimination with which candidates for positions are described to the appointing or employing persons. The office has built up a good reputation for frankness and discrimination, and this good reputation and the energy of the Secretary are doubtless the causes of the increase in its business. It is desirable that graduates of the college, particularly those who settle in places at a distance from Cambridge, should take note of the function of this office, and avail themselves on occasion of its services. This is one of the ways in which the older graduates of the University can help the younger. Graduates who are likely to want positions, or better positions, can help the office by keeping on file there fresh and full de-

scriptions of their own capacities and desires. The office ought to be serviceable, not only to men who are seeking first positions, but also to men who desire promotions.

The method of procuring professional advice concerning new buildings and new sites for buildings, which was adopted by the President and Fellows at the instance of the Board of Overseers in the spring of 1904, was used a second time when new plans for a Law School building on a new site were submitted in 1905 by Messrs. Shepley, Rutan & Coolidge to the same committee of architects which reported against the site and the design for this building proposed by the same firm in 1904. The committee consisted of Messrs. Robert S. Peabody, Francis W. Chandler, and George R. Shaw. This time the report of the committee as to both site and design was favorable.

The net income of the general investments was divided in 1904–05 among the funds to which they belong at the rate of 4.92 per cent., after allowing special rates to certain temporary funds and balances. This rate of income is higher by fifteen hundredths of one per cent. than the rate for 1903–04, and must be considered a very satisfactory rate on so large a capital — about fifteen million dollars on the average of the year.

On pages 10–18 of the Treasurer's Statement will be found convenient summaries of the receipts and expenditures, and the resulting surpluses and deficits, in the several departments of the University. These new summaries show clearly what departments had deficits and what departments had surpluses in 1904–05, and how these deficits or surpluses compare with those of the preceding year. Thus, in the combined account of the University, College, Lawrence Scientific School, Graduate School of Arts and Sciences, and Library there was in 1904–05 a deficit of \$25,137.11; whereas in the preceding year the deficit in this same account was \$30,743.06. The deficit recurred in this account, because the number of students in these departments of the University diminished somewhat, and the dormitories belonging to them were not as well leased in 1904–05 as they were the year before. Several measures were

put in force by the Corporation to increase receipts on the one hand and diminish expenditures on the other; but on account of the unfavorable circumstances just mentioned, these measures did not prevent the recurrence of a deficit.

The gifts of the year for capital account were \$1,455,131.97, and for immediate use were \$875,295.59.

In addition to the new summaries already mentioned, there will be found in the Treasurer's Statement new tables relating to the museums and scientific establishments, and to Appleton Chapel, Phillips Brooks House, Hemenway Gymnasium, and Stillman Infirmary. There are ten such new tables, all of which add to the completeness and intelligibility of the Treasurer's Statement. A useful index has also been added to the Statement. These improvements are all due to the ingenuity, knowledge, and zeal of Mr. Allen Danforth, Comptroller. The fulness and clearness of the Treasurer's Statement have been noteworthy for many years, and are believed to be a just source of public confidence in the financial administration of the University.

It is an imperfection of the ample compilation which now forms the President's Annual Report that some of the most considerable of the University's activities are but scantily described in it. It has become the custom for the Directors of laboratories, museums, living collections, and other scientific establishments, to present to the President each an annual report, with mention of the most interesting events of the year and of the publications which have been issued from each laboratory or museum. The departments of the Arts and Sciences which do not maintain laboratories or museums, such as the ancient and modern languages, philosophy, history and government, economics, and mathematics, are comparatively neglected, or passed over in silence, in the Annual Report, except as the reports of the Deans and the Librarian may represent their interests. Yet the activity and productiveness of some of these departments are quite as great as those of the scientific establishments which are always fully represented. To remedy this onesidedness of the Report, it would seem to be necessary to abridge somewhat the reports of the departments already represented, in order to make room for reports



from the departments heretofore unrepresented ; for the size of the President's Report ought not to be increased. The University profits by the publicity given to all its affairs through the Report, but that valuable publicity will be diminished if the size of the volume continues to increase.

The following reports of the Deans of the Faculties and Schools, and the Directors of the Scientific Establishments are commended to the careful attention of the Overseers and the Alumni, and of all friends of the University and students of education. They are full of facts, opinions, and discussions, which for lack of space cannot even be alluded to in the President's own report.

CHARLES W. ELIOT, *President*.

CAMBRIDGE, 9 January, 1906.

# REPORTS OF DEPARTMENTS.

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## THE FACULTY OF ARTS AND SCIENCES.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — I have the honor of presenting a report of the work of the Faculty of Arts and Sciences for the academic year 1904–05.

Besides the President, the Faculty contained sixty-nine Professors, two Associate Professors, forty-one Assistant Professors, one Lecturer, twenty-seven Instructors, the Inspector of Grounds and Buildings, and the Recorder, — in all one hundred and forty-three members.

The Faculty of Arts and Sciences is a collection of able and interesting men; and its debates, even when most discursive, are worth hearing: but it is too large and varied a body to do much efficient work in two-hour meetings. As time goes on, more and more of its business is turned over to Boards and Committees, or to Divisions and Departments. In these smaller groups of men nearly all the hard and efficient administrative work of the Faculty is done. Even those committees whose careful plans are sure to be shattered in the discussions of the Faculty, work with as much vigor and enthusiasm as if confident of success, and meet their fate with a calmness that is almost Oriental. As a band of working individuals, the Faculty might be hard to match; but that wonderful variety, which is a great part of its strength, seldom suffers it to act as a unit.

### *Instruction in 1904–05.*

With the following list of courses of instruction that were actually given under the authority of the Faculty, I print a statement of the number and the classification of the students in each course. The figures are those officially returned to the Recorder by the several instructors at the close of the academic year, and take no account of persons who, regularly or irregularly, attended the exercises and did the work of a course without being officially recognized as members of it. The abbreviations are those ordinarily used in such lists :—

## COURSES OF INSTRUCTION GIVEN IN 1904-05.

**Semitic Languages and History.***For Undergraduates and Graduates:—*

1. Professor LYON. — Hebrew (elementary course).  
3 Se., 4 Ju., 2 So., 2 Sp., 2 Di. Total 13.
- 6 *hf*. Professor LYON. — History of Babylonia and Assyria.  
1 Gr., 2 Ju., 1 Di. Total 4.
12. Professor LYON. — History of Israel, political and social, till the capture of Jerusalem by the Romans.  
2 Gr., 2 Se., 7 Ju., 15 So., 3 Fr., 2 Sp., 1 Sc., 2 Di. Total 34.
16. Professor G. F. MOORE. — History of Hebrew Literature.  
2 So., 5 Di. Total 7.
13. Professor TOY. — History of the Hebrew Religion, with comparison of other Semitic religions.  
1 Gr., 1 So., 1 Sp., 10 Di. Total 13.
- 15 *hf*. Professor TOY. — History of the Bagdad Califate. Mohammedanism in Egypt and India; Mohammedan Law; The Crusades; Lectures on the Literature; The Korān. 1 Gr., 2 Se., 1 Ju., 2 So., 2 Fr., 1 Di. Total 9.

*Primarily for Graduates:—*

2. Professor TOY. — Hebrew (second course). Interpretation of parts of the Prophets and the Poetical Books. 2 Di. Total 2.
- 3 *hf*. Dr. HAYNES. — Jewish Aramaic. Interpretation of parts of Ezra, Daniel, and the Targums. 1 Se., 1 Sp., 1 Di. Total 3.
- 3a *hf*. Dr. HAYNES. — Classical Aramaic (Syriac). The Peshitto Version of the New Testament. 1 Se., 3 Di. Total 4.
- †4. Dr. HAYNES. — Assyrian. 1 Sp. Total 1.
- †5. Professor LYON. — Assyrian (second course). — The Laws of Hammurabi. 1 Se. Total 1.
- †7. Dr. HAYNES. — Arabic. Brünnow's Chrestomathy. 1 Sp., 1 Law. Total 2.
- †8. Professor TOY. — Arabic (second course). The Moallakāt; Motenebbi; Ibn Haldun; the Korān. 1 Se., 1 R. Total 2.
- 9 *hf*. Dr. HAYNES. — Ethiopic. Dillmann's Chrestomathy; Enoch. 1 Se. Total 1.
11. Professor G. F. MOORE. — The Talmud. The Mishna, Moed; The Babylonian Talmud, portions of Berakoth. 1 Se., 1 Sp. Total 2.

## COURSE OF RESEARCH.

- 20c. Professor G. F. MOORE. — Old Testament: Principles and Practice of Criticism. 1 Di. Total 1.

**Egyptology.***For Undergraduates and Graduates:—*

1. Mr. LYTGOE. — The History of Egyptian Art, with an outline, in conclusion, of Graeco-Roman, Christian, and Arab Art in Egypt.  
3 Se., 6 Ju., 15 So., 2 Fr., 2 So. Total 28.
2. Mr. LYTGOE. — Egyptian Archaeology. Lectures, with work on the Egyptian Collection in the Boston Museum of Fine Arts.  
3 Se., 2 Ju., 3 So., 2 Fr. Total 10.

**Indic Philology.***For Undergraduates and Graduates : —*

1a <sup>1</sup>hf. Professor LANMAN. — Elementary Sanskrit. 3 Gr., 1 Se., 1 So. Total 5.

1b <sup>2</sup>hf. Professor LANMAN. — Elementary Sanskrit (continued). Episodes from the Mahā-Bhārata. 3 Gr., 1 So. Total 4.

*Primarily for Graduates : —*

†2 <sup>1</sup>hf. Dr. RYDER. — Sanskrit. Introduction to the language and literature of the Vedas. Hymns of the Rig-Veda, etc. 1 Gr. Total 1.

†3 <sup>2</sup>hf. Dr. RYDER. — Sanskrit. Continuation of the study of the Vedas. 1 Gr., 1 R. Total 2.

†9 <sup>1</sup>hf. Dr. RYDER. — Sanskrit. The Drama. The Little Clay Cart (Mṛcchakatikā), ascribed to King Çūdraka, with the commentary of Pṛthvīdhara. 1 Gr., 1 R. Total 2.

†10 <sup>2</sup>hf. Dr. RYDER. — Sanskrit. The Drama. Continuation of the study of the Mṛcchakatikā. 1 Gr. Total 1.

†4 <sup>1</sup>hf. Professor LANMAN. — Pāli. Selections from the Sacred Books of Buddhism : Jātakas, the Buddha-legend, Dialogues of the Buddha, as given in Dines Andersen's Pāli Reader. 2 Gr., 1 R. Total 3.

†5 <sup>2</sup>hf. Professor LANMAN. — Pāli. The Sacred Books of Buddhism. The Sutta Nipāta. Buddhaghosa's Way of Purity (selected chapters). 2 Gr., 1 R. Total 3.

**Classical Philology.***Primarily for Undergraduates : —***GREEK.**

B. Professors J. H. WRIGHT and WEIR SMYTH, and Asst. Professor HARRIS. — Greek Literature. Plato; Lysias; Xenophon; Elegiac, Iambic, and Lyric Poets; Euripides. Lectures on the History of Greek Literature. 1 Ju., 4 So., 54 Fr., 2 Sp. Total 61.

E hf. Asst. Professor HARRIS. — Greek Prose Composition (first course). 1 Gr., 1 Ju., 2 So., 12 Fr., 1 Sp. Total 17.

1. Asst. Professor HARRIS. — Greek Literature. The Period of Athenian Supremacy. Herodotus; Aeschylus; Plutarch; Thucydides; Aristophanes; Sophocles. 2 Se., 3 Ju., 7 So., 3 Fr. Total 15.

2. Asst. Professors GULICK and HARRIS. — Greek Literature. Aristophanes; Thucydides; Aeschylus; Sophocles. 3 Ju., 23 So., 1 Fr. Total 27.

3 hf. Asst. Professor GULICK. — Greek Prose Composition (second course). 3 Gr., 3 Ju., 12 So. Total 18.

**LATIN.**

B. Professor HOWARD, Associate Professor C. P. PARKER, Asst. Professor CLIFFORD H. MOORE, and Dr. E. K. RAND. — Latin Literature. Livy; Horace; Terence. 2 Ju., 17 So., 109 Fr., 8 Sp. Total 136.

E hf. Dr. E. K. RAND. — Latin Composition (first course). Translation of English narrative. 1 Gr., 1 Se., 8 So., 17 Fr. Total 27.

1. Professor MORGAN and Associate Professor C. P. PARKER. — Latin Literature. Tacitus; Horace; Catullus. 29 So., 1 Fr., 1 Sp. Total 31.
2. Associate Professor C. P. PARKER and Dr. E. K. RAND. — Latin Literature. Tacitus; General View of Latin Poetry. 1 Gr., 2 Se., 7 Ju., 10 So. Total 20.
- 3 *hf.* Asst. Professor CLIFFORD H. MOORE. — Latin Composition (second course). 2 Gr., 1 Se., 3 Ju., 12 So. Total 18.

*For Undergraduates and Graduates : —*

GREEK.

6. Professor WEIR SMYTH and Asst. Professor GULICK. — Greek Literature. Demosthenes; Aeschines; Aeschylus; Sophocles; Aristophanes. 6 Gr., 3 Se., 10 Ju., 1 So., 1 Di. Total 21.
- 7 *hf.* Professor J. H. WRIGHT. — Greek Prose Composition (third course). 7 Gr., 5 Se., 1 Ju. Total 13.
- 9 <sup>2</sup>*hf.* Professor ROPES. — Introduction to the Study of the New Testament. The Teaching of Jesus Christ and of the New Testament Authors. 7 Se., 8 Ju., 8 So., 2 Sp., 3 Di. Total 28.
8. Professors GOODWIN and J. H. WRIGHT. — Plato; Aristotle. Survey of Greek Philosophy from Thales to Aristotle. 6 Gr., 7 Se., 2 Ju. Total 15.
10. Asst. Professor GULICK. — The Life of the Ancient Athenians, described and illustrated by the aid of the Literature and of the Monuments. 20 Se., 50 Ju., 35 So., 2 Fr., 2 Sp., 9 Sc. Total 118.
11. Professor J. W. WHITE. — History of the Greek Drama. Lectures on the Dramatic Art and Literature of the Greeks, with reading and study of Greek Plays. Aeschylus; Sophocles; Euripides; Aristophanes. 6 Gr., 31 Se., 36 Ju., 47 So., 7 Fr., 3 Sp., 3 Sc., 1 Law. Total 134.

LATIN.

6. Professor HOWARD. — Latin Literature. Suetonius; Pliny; Juvenal; Martial. 4 Gr., 4 Se., 13 Ju., 1 So. Total 22.
- 7 *hf.* Associate Professor C. P. PARKER. — Latin Composition (third course). 8 Gr., 5 Se., 1 Ju. Total 14.
8. Professor MORGAN and Asst. Professor CLIFFORD H. MOORE. — Latin Literature. Plautus; Cicero; Lucretius. 8 Gr., 8 Se., 4 Ju., 1 Sp. Total 21.
15. Professor MORGAN and Dr. E. K. RAND. — The Works of Virgil, with studies of his Sources and of his Literary Influence from his own times to the Renaissance. 9 Gr., 1 Se., 1 Ju., 1 So. Total 12.

*Primarily for Graduates : —*

CLASSICAL PHILOLOGY.

- †77 <sup>1</sup>*hf.* Asst. Professor GULICK. — Introduction to the critical study of Homer. 8 Gr., 1 Se. Total 9.
- †88 <sup>1</sup>*hf.* Professor WEIR SMYTH. — Pindar (Olympian and Pythian Odes), with some poems of Bacchylides. 7 Gr. Total 7.

38. Professor J. W. WHITE. — The Comedies of Aristophanes.  
10 Gr., 1 Se., 1 Ju. Total 12.
- 66 <sup>3</sup>/<sub>4</sub>f. Professor MORGAN. — The Philippics of Demosthenes and of Cicero.  
3 Gr., 1 Se. Total 4.
- ‡54 <sup>3</sup>/<sub>4</sub>f. Professor ROPES. — The Acts of the Apostles.  
2 Gr., 1 So., 2 Di. Total 5.
- ‡72 <sup>3</sup>/<sub>4</sub>f. Professor ROPES. — The Epistles of St. Paul. Selections.  
3 Di. Total 3.
- 40 <sup>3</sup>/<sub>4</sub>f. Professor MORGAN. — Roman Literary Criticism. Horace, Quintilian, Gellius.  
6 Gr. Total 6.
41. Professor SMITH. — Cicero's Correspondence. 2 Gr. Total 2.
- 56 <sup>1</sup>/<sub>2</sub>f. Professor HOWARD. — The Reigns of Claudius and Nero. Suetonius (Lives) and Tacitus (Annals XI–XVI). 10 Gr., 4 Se. Total 14.
- 74 <sup>3</sup>/<sub>4</sub>f. Asst. Professor CLIFFORD H. MOORE. — The Roman Novel. Petronius and Apuleius. 6 Gr., 2 Se., 3 Ju., 1 Sp. Total 12.
- ‡42. Professor WEIR SMYTH. — History of Later Greek Literature (the Alexandrian and Roman periods). 4 Gr., 1 R. Total 5.
- ‡21 <sup>3</sup>/<sub>4</sub>f. Professor WEIR SMYTH. — Introduction to Greek Epigraphy.  
8 Gr. Total 8.
- 28 <sup>3</sup>/<sub>4</sub>f. Professor HOWARD. — Latin Grammar (Syntax). 6 Gr., 1 Se. Total 7.
- ‡32 <sup>1</sup>/<sub>2</sub>f. Asst. Professor CLIFFORD H. MOORE. — The Religion and Worship of the Romans. Ovid's Fasti. 11 Gr., 2 R. Total 13.
64. Dr. CHASE. — General Introduction to Classical Archaeology.  
7 Gr., 1 Se., 1 Ju., 1 So. Total 10.
- ‡70 <sup>3</sup>/<sub>4</sub>f. Dr. CHASE. — The Topography and Monuments of Athens.  
3 Gr. Total 3.

## 20. THE SEMINARY OF CLASSICAL PHILOLOGY.

Professors J. H. WRIGHT and MORGAN, Directors for 1904–05. — Training in philological criticism and research. Text-criticism and interpretation of Greek and Latin authors: for 1904–05, Sophocles and Vitruvius.

10 Gr. Total 10.

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*Primarily for Undergraduates: —*

A. Professor BRIGGS, Asst. Professor HURLBUT, Mr. COPELAND, Drs. C. F. BROWN and H. DEW. FULLER, and Messrs. NUTTER, W. B. PARKER, E. H. WELLS, STEARNS, UTTER, CARLETON, H. S. V. JONES, W. R. CASTLE, and AYRES. — Rhetoric and English Composition.

8 So., 389 Fr., 43 Sp., 119 Sc., 4 Bu. Total 563.

*BC* <sup>3</sup>/<sub>4</sub>f. Messrs. T. HALL and HACKETT. — English Composition.

1 Gr., 1 Se., 53 Sc. Total 55.

31. Asst. Professor GARDINER, and Messrs. W. B. PARKER, E. H. WELLS, and HERSEY. — English Composition.

1 Se., 11 Ju., 109 So., 69 Fr., 10 Sp., 11 Sc. Total 211.

22. Drs. MAYNADIER and WEBSTER, and Mr. W. B. PARKER. — English Composition. 7 Se., 35 Ju., 34 So., 2 Fr., 9 Sp., 3 Sc. Total 90.
- 28 *hf.* Professors BRIGGS and KITTREDGE, Asst. Professor BAKER, Dr. BLISS PERRY, and Mr. T. HALL. — English Literature. History and Development of English Literature in outline. 101 Fr., 9 Sp. Total 110.
18. Asst. Professor BAKER, and Messrs. KELSO and R. L. LYMAN. — The Forms of Public Address. 1 Gr., 12 Se., 36 Ju., 25 So., 2 Sp., 1 Sc. Total 77.
- 30 <sup>1 or 2</sup>*hf.* Asst. Professor BAKER and Mr. R. L. LYMAN. — Debating. 2 Gr., 13 Se., 16 Ju., 6 So., 1 Sp., 1 Sc. Total 39.

*For Undergraduates and Graduates: —*

- 3a <sup>1</sup>*hf.* Asst. Professor SCHOFIELD. — Anglo-Saxon. 20 Gr., 5 Se., 8 Ju., 1 Law. Total 34.
1. Professor KITTREDGE and Asst. Professor SCHOFIELD. — English Literature. Chaucer. 19 Gr., 2 Se., 2 Ju., 1 So. Total 24.
35. Asst. Professor GARDINER. — English Literature. The English Bible. 8 Se., 7 Ju., 6 So., 1 Sp. Total 22.
2. Professor KITTREDGE. — English Literature. Shakspeare (six plays). 24 Gr., 14 Se., 35 Ju., 36 So., 2 Fr., 7 Sp., 1 Sc., 1 Bu. Total 120.
- 11a <sup>1</sup>*hf.* Asst. Professor F. N. ROBINSON — English Literature. Bacon. 3 Gr., 10 Se., 7 Ju., 11 So., 4 Fr., 1 Sp. Total 36.
- 11b <sup>2</sup>*hf.* Asst. Professor F. N. ROBINSON. — English Literature. Milton. 5 Gr., 9 Se., 16 Ju., 42 So., 5 Fr., 6 Sp., 5 Sc. Total 88.
- 32a <sup>1</sup>*hf.* Dr. H. DEW. FULLER. — English Literature of the Elizabethan Period. From Tottel's Miscellany to the death of Spenser (1557–1599). 1 Gr., 11 Se., 13 Ju., 19 So., 5 Fr., 1 Sc., 1 Me. Total 51.
- 7a <sup>1</sup>*hf.* Mr. COPELAND. — English Literature of the Period of Queen Anne. From the death of Dryden to the death of Swift (1700–1745). 10 Gr., 29 Se., 21 Ju., 51 So., 6 Fr., 5 Sp., 2 Sc. Total 124.
- 7b <sup>2</sup>*hf.* Dr. MAYNADIER. — English Literature. From the death of Swift to the publication of the Lyrical Ballads (1745–1798). 18 Gr., 24 Se., 36 Ju., 76 So., 17 Fr., 8 Sp., 3 Sc. Total 182.
- 8b <sup>2</sup>*hf.* Dr. C. F. BROWN. — English Literature. From the death of Scott to the death of Tennyson (1832–1892). 14 Gr., 21 Se., 18 Ju., 33 So., 8 Fr., 4 Sp., 1 Sc. Total 99.
- 37 <sup>1</sup>*hf.* Dr. MAYNADIER. — English Literature. The Story of King Arthur. 2 Gr., 3 Se., 3 Ju., 9 So., 1 Fr., 1 Sp. Total 19.

12. Professor BRIGGS. — English Composition. 9 Gr., 14 Se., 11 Ju., 7 So., 2 Sp., 1 Di. Total 44.

*Primarily for Graduates: —*

- 19 <sup>2</sup>*hf.* Asst. Professor F. N. ROBINSON. — Historical English Grammar. 12 Gr. Total 12.
- 16 *hf.* Professor BRIGGS. — History and Principles of English Versification. 7 Gr., 3 Se., 1 Ju., 2 So. Total 13.

- 3b<sup>2</sup>hf.** Professor KITTREDGE. — Anglo-Saxon. *Béowulf*.  
19 Gr., 2 Se., 2 Ju., 1 Law. Total 24.
- 4.** Asst. Professor SCHOFIELD and Dr. WEBSTER. — Early English. English Literature from 1200 to 1450. 15 Gr. Total 15.
- 21<sup>1</sup>hf.** Professor KITTREDGE. — Early English. The Metrical Romances.  
10 Gr. Total 10.
- 14.** Asst. Professor BAKER. — English Literature. The Drama from the Miracle Plays to the Closing of the Theatres.  
26 Gr., 7 Se., 9 Ju., 1 So., 1 Sp. Total 44.
- 39<sup>1</sup>hf.** Asst. Professor BAKER. — English Literature. The Drama in England from 1642 to 1900. 9 Gr., 15 Se., 8 Ju., 4 So., 1 Sp. Total 37.
- 5<sup>1</sup>hf.** Professor A. S. HILL and Dr. MAYNADIER. — English Composition (advanced course). 11 Gr., 6 Se., 4 Ju., 1 So. Total 22.

## COURSES OF RESEARCH.

- 20.** The instructors in English held themselves ready to assist and advise competent Graduate Students who might propose plans of special study in the language or literature of the periods, or in the topics, mentioned below. Such plans, however, must in each case have met the approval of the Department.

## I. PERIODS.

- b.** Professor KITTREDGE. — Middle English. 1 Gr. Total 1.

## II. TOPICS.

- g.** Asst. Professor BAKER. — The English Drama: its history, and its relation to Continental Drama. 3 Gr. Total 3.

## Public Speaking.

*Primarily for Undergraduates: —*

- 1.** Messrs. HILLS and WILLARD. — Voice Cultivation. Vocal exercises, and elementary training in speech.  
2 Gr., 2 Se., 5 Ju., 7 So., 17 Fr., 2 Sp. Total 35.
- 2 hf.** Asst. Professor WINTER and Mr. R. L. LYMAN. — Platform Speaking. Oral practice, mainly on selected speeches representing various forms of public address.  
2 Gr., 12 Se., 20 Ju., 29 So., 4 Fr., 6 Sp., 1 Sc. Total 74.
- 3 hf.** Asst. Professor WINTER and Mr. R. L. LYMAN. — Masterpieces of Public Discourse. Study, and oral discussion on topics taken from history, biography, and criticism, connected with the subject of the course. Practice in impromptu speaking. 3 Se., 9 Ju., 7 So. Total 19.
- 4 hf.** Asst. Professor WINTER and Mr. HILLS. — Dramatic Interpretation. Study and oral practice, as a basis for public presentation of characters in classic drama or for criticism of such presentation. Impromptu discussion. 1 Gr., 2 Se., 4 Ju., 1 Fr., 1 Law. Total 9.



## Germanic Languages and Literatures.

## GERMAN.

*Primarily for Undergraduates:—*

**A.** Asst. Professor BIERWIRTH, Dr. RYDER, and Messrs. WEBER, STURTEVANT, COLWELL, HAGENS, BRIGGS, GROSSMANN, and LIEDER. — Elementary Course.

3 Gr., 5 Se., 8 Ju., 22 So., 205 Fr., 19 Sp., 27 Sc. Total 289.

**D.** Asst. Professor BIERWIRTH and Mr. HAGENS. — Elementary Course.

1 Ju., 1 So., 1 Sp., 26 Sc. Total 29.

**B.** Mr. W. G. HOWARD. — Elementary Course (counting as two courses).

1 Ju., 1 So., 18 Fr., 3 Sp. Total 23.

**C.** Dr. SKINNER and Mr. MUENTER. — German Prose and Poetry.

3 Se., 1 Ju., 8 So., 30 Fr., 5 Sp., 6 Sc. Total 53.

**1a.** Asst. Professor BIERWIRTH and Dr. SKINNER. — German Prose and Poetry.

2 Ju., 47 So., 8 Fr., 4 Sp., 3 Sc., 1 Di. Total 65.

**1b.** Professor H. S. WHITE, Professor WALZ (Cornell University), and Mr. COLWELL. — German Prose. Subjects in History and Biography.

1 Gr., 1 Se., 7 Ju., 46 So., 13 Fr., 1 Sp., 8 Sc. Total 77.

**1c.** Messrs. STURTEVANT and GROSSMANN. — German Prose, narrative and descriptive.

9 Ju., 15 So., 3 Fr., 22 Sc., 1 Bu. Total 50.

**Fhf.** Mr. MUENTER. — Practice in speaking and writing German (first course).

11 Ju., 5 So., 2 Fr., 2 Sp., 1 Sc. Total 21.

**2a.** Mr. W. G. HOWARD and Dr. SKINNER. — Introduction to German Literature of the Eighteenth and Nineteenth Centuries. Lessing, Goethe, and Schiller; German Ballads and Lyrics.

6 Ju., 11 So., 34 Fr., 1 Sp., 3 Sc. Total 55.

**2b.** Professor H. S. WHITE, Professor WALZ (Cornell University), and Dr. SKINNER. — Introduction to German Literature of the Eighteenth and Nineteenth Centuries. Lessing, Goethe, and Schiller; German Ballads and Lyrics.

3 Se., 29 Ju., 26 So., 22 Fr., 7 Sp., 5 Sc. Total 92.

**3.** Asst. Professor BIERWIRTH. — Schiller and his Time. *Der Dreissigjährige Krieg*; *Wallenstein*; *Maria Stuart*; *Die Jungfrau von Orleans*; *Die Braut von Messina*; *Gedichte*.

1 Se., 8 Ju., 15 So., 4 Fr., 1 Sp. Total 29.

**4.** Professor FRANCKE. — Goethe and his Time. *Götz von Berlichingen*; *Egmont*; *Iphigenie*; *Tasso*; *Dichtung und Wahrheit*; *Gedichte*; *Faust*.

4 Se., 17 Ju., 26 So., 8 Fr., 1 Sp., 2 Sc. Total 58.

*For Undergraduates and Graduates:—*

**Ghf.** Asst. Professor BIERWIRTH. — German Grammar and practice in writing German (advanced course).

6 Gr., 1 Se., 1 Law. Total 8.

**5.** Professor FRANCKE and an assistant. — German Literature of the Classic Period of the Eighteenth Century.

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**26a hf.** Mr. W. G. HOWARD. — German Literature in the first half of the Nineteenth Century. Kleist; Uhland; Heine.

5 Gr., 2 Se., 5 Ju., 2 So., 1 Sp. Total 15.

26b <sup>2</sup>/<sub>hf</sub>. Mr. W. G. HOWARD. — German Literature in the second half of the Nineteenth Century. The Development of the Novel and the Drama.  
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4 Gr., 7 Se., 9 Ju., 11 So., 2 Sp., 1 Sc., 1 Di. Total 35.

8. Professor MENSEL (Smith College). — German Literature in the Twelfth and Thirteenth Centuries. Nibelungenlied; Kudrun; Hartmann; Wolfram; Walther von der Vogelweide. Translation into modern German.  
3 Gr., 1 Se. Total 4.

*Primarily for Graduates: —*

‡12a <sup>1</sup>/<sub>hf</sub>. Professor MENSEL (Smith College). — Gothic. Introduction to the study of Germanic Philology. General Introduction and Phonology.  
13 Gr., 2 Se. Total 15.

‡12b <sup>2</sup>/<sub>hf</sub>. Professor MENSEL (Smith College). — Introduction to the study of Germanic Philology (continued). Morphology, Etymology.  
3 Gr., 1 Se. Total 4.

‡15 <sup>1</sup>/<sub>hf</sub>. Asst. Professor BIERWIRTH. — Old High German. 2 Gr. Total 2.

‡21. Professor MENSEL (Smith College). — History of the German Language. Introduction. Phonology. Accidence. 3 Gr. Total 3.

SEMINARY COURSE IN GERMANIC LANGUAGES AND LITERATURES.

*Primarily for Graduates: —*

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SCANDINAVIAN LITERATURE.

*For Undergraduates and Graduates: —*

1. Asst. Professor SCHOFIELD. — Modern Danish and Norwegian Literature. Holberg, Oehlenschläger, Ibsen, Björnson, and other writers. Practice in the spoken language. Lectures on the history of Scandinavian Literature.  
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Romance Languages and Literatures.

FRENCH.

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A. Dr. MORLEY, and Messrs. UNDERWOOD, WHITTEM, and SNOW. — Elementary Course. 5 Gr., 4 Se., 2 Ju., 8 So., 78 Fr., 18 Sp., 29 Sc. Total 144.

1c. Dr. MORLEY. — Reading, translation, grammar, and composition.  
2 Ju., 1 So., 29 Sc. Total 32.

1b. Asst. Professor BABBITT, Dr. M. A. POTTER, and Messrs. F. W. BROWN and SNOW. — French Prose, historical and general. Translation from French into English.

1 Se., 6 Ju., 43 So., 42 Fr., 11 Sp., 6 Sc. Total 109.

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4 Se., 4 Ju., 22 So., 14 Fr., 2 Sp., 2 Sc. Total 48.

2c. Asst. Professor MARCOU, Drs. M. A. POTTER and MORLEY, and Messrs. F. W. BROWN, BAULIG, and WHITTEM. — French Prose and Poetry. Corneille; Racine; Molière; Beaumarchais; Lamartine; Victor Hugo; Alfred de Musset; Balzac. Composition.

4 Se., 15 Ju., 58 So., 102 Fr., 7 Sp., 10 Sc. Total 196.

2a. Asst. Professor C. H. C. WRIGHT, and Messrs. BRUN and SNOW. — French Prose and Poetry. Corneille; Racine; Molière; Victor Hugo; George Sand; Alfred de Musset; Sainte-Beuve. Composition.

1 Gr., 3 Se., 9 Ju., 26 So., 61 Fr., 3 Sp., 4 Sc. Total 107.

4 hf. Mr. BRUN. — Practice in speaking and writing French (intermediate course).

1 Gr., 1 Se., 1 Ju., 2 So., 1 Fr., 1 Sp., 2 Sc. Total 9.

5 hf. Mr. BRUN. — Practice in speaking and writing French (advanced course).

1 Gr., 2 Ju., 1 Law. Total 4.

*For Undergraduates and Graduates: —*

6c. Professor GRANDGENT. — General view of French Literature.

2 Gr., 2 Se., 2 Ju., 19 So., 1 Fr. Total 26.

6. Associate Professor DE SUMICHRASST. — General view of French Literature.

2 Se., 15 Ju., 32 So., 2 Fr., 2 Sp., 2 Sc. Total 55.

14. Asst. Professor MARCOU. — French Lyric Poetry from Villon and the Fifteenth Century to the present time.

3 Ju., 2 So. Total 5.

7a <sup>1</sup>hf. Associate Professor DE SUMICHRASST. — French Literature in the first half of the Nineteenth Century.

3 Gr., 9 Se., 17 Ju., 3 So., 1 Sp. Total 33.

7b <sup>2</sup>hf. Associate Professor DE SUMICHRASST. — French Literature in the second half of the Nineteenth Century.

2 Gr., 7 Se., 14 Ju., 3 So. Total 26.

9. Asst. Professor C. H. C. WRIGHT. — French Literature in the Seventeenth Century.

2 Gr., 6 Ju., 1 So. Total 9.

10. Asst. Professor C. H. C. WRIGHT. — French Literature in the Sixteenth Century.

2 Gr., 3 Se., 1 Ju., 1 So. Total 7.

*Primarily for Graduates: —*

19 hf. Asst. Professor MARCOU. — Historical French Syntax. 1 Gr. Total 1.

11. Professor SHELDON. — Old French Literature. Rapid reading of texts, with consideration of their literary relations.

5 Gr. Total 5.

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1. Asst. Professor FORD and Mr. UNDERWOOD. — Elementary Course.

1 Gr., 14 Ju., 22 So., 8 Fr., 2 Sp., 1 Sc. Total 48.

*For Undergraduates and Graduates: —*

2. Asst. Professor FORD. — Italian Literature of the Fifteenth and Sixteenth Centuries. Torquato Tasso, Ariosto, Machiavelli, Benvenuto Cellini.

2 Gr., 2 Se., 6 Ju., 4 So. Total 14.

10. Professor GRANDGENT. — The Works of Dante, particularly the Vita Nuova and the Divine Comedy.

5 Gr., 1 Ju., 1 So. Total 7.

## SPANISH.

*Primarily for Undergraduates : —*

1. Drs. M. A. POTTER and MORLEY, and Messrs. WHITTEM and SNOW. — Elementary Course.

3 Se., 33 Ju., 50 So., 26 Fr., 3 Sp., 3 Sc., 1 Bu. Total 119.

*For Undergraduates and Graduates : —*

- 4 *hf.* Asst. Professor FORD. — A general view of Spanish Literature.

4 Gr., 1 Ju., 3 So., 1 Sp., 1 Law. Total 10.

2. Asst. Professor MARCOU. — Spanish Literature of the Sixteenth and Seventeenth Centuries. Cervantes; Lope de Vega; Calderón.

1 Gr., 1 Se., 7 Ju., 2 So., 1 Fr., 1 Sp. Total 13.

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- ‡3. Asst. Professor FORD. — Early Spanish. The Poem of the Cid. Spanish Literature to the Fifteenth Century.

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## ROMANCE PHILOLOGY.

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3. Professor SHELDON. — Old French. Phonology and inflections. The oldest texts. La Chanson de Roland; Chrétien de Troyes; Aucassin et Nicolette.

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- ‡20*d.* Professor SHELDON. — Opportunities were afforded to competent students for the investigation of special subjects in Romance Philology.

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1 Gr., 1 Se., 1 So. Total 3.

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## Celtic.

*Primarily for Graduates : —*

- 1 *1hf.* Asst. Professor F. N. ROBINSON. — Old Irish. General introduction to Celtic Philology.

1 Gr. Total 1.

- 2<sup>2</sup>*hf*. Asst. Professor F. N. ROBINSON. — Middle Irish. Lectures on the history of Irish Literature. 1 Gr. Total 1.

## RESEARCH COURSE.

20. Asst. Professor F. N. ROBINSON. — Middle Welsh. 1 Gr. Total 1.

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*For Undergraduates and Graduates : —*

- 1a. Asst. Professor WIENER. — Russian. 1 Gr., 1 Ju., 4 So., 1 Sp. Total 7.  
 1b. Asst. Professor WIENER. — Russian. Literature of the Nineteenth Century. Pushkin, Gogol, Turgenev, Tolstoy. Composition. 1 So., 1 Sp. Total 2.  
 2b. Asst. Professor WIENER. — Polish. Literature of the Nineteenth Century. Mickiewicz; Krasinski; Slowacki; Pol; Kalina; Sienkiewicz. 1 So. Total 1.  
 4 *hf*. Asst. Professor WIENER. — Introduction to the History of Russian Literature. 1 Gr., 8 Se., 15 Ju., 24 So., 13 Fr., 2 Sp., 2 Sc. Total 65.

## History and Political Science.

## HISTORY.

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- 1a. Professor HASKINS, assisted by Messrs. BINGHAM, FRYER, OGG, and PAHLOW. — Mediaeval History (introductory course). 39 So., 294 Fr., 39 Sp., 8 Sc. Total 380.

*For Undergraduates and Graduates : —*

3. Professor HASKINS. — History of Rome to the reign of Diocletian. 11 Gr., 4 Se., 4 Ju., 8 So., 4 Fr., 2 Sp., 1 Sc. Total 34.  
 6. Professor EMERTON. — General Church History to the End of the Seventeenth Century. 2 Gr., 2 Se., 1 Ju., 1 So., 2 Di. Total 8.  
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 9. Professor GROSS. — Constitutional History of England to the Sixteenth Century. 12 Gr., 5 Se., 10 Ju., 6 So., 1 Sp. Total 34.  
 12a <sup>1</sup>*hf*. Professor MACVANE, assisted by Mr. BURLEY. — English History from the Revolution of 1688 to the Reform of Parliament. 8 Gr., 20 Se., 24 Ju., 22 So. Total 74.  
 12b <sup>2</sup>*hf*. Professor MACVANE, assisted by Mr. BURLEY. — English History since the Reform of Parliament. 5 Gr., 14 Se., 30 Ju., 27 So., 1 Fr. Total 77.  
 27. Dr. MERRIMAN. — European History in the Sixteenth and Seventeenth Centuries : principally of France, Germany, and the Netherlands. 5 Gr., 5 Se., 3 Ju., 11 So., 4 Fr. Total 28.

**16a <sup>1</sup>hf.** Professor MACVANE, assisted by Mr. BEATMAN. — History of Continental Europe from the Peace of Utrecht to the Fall of Napoleon I.

6 Gr., 18 Se., 34 Ju., 101 So., 11 Fr., 6 Sp., 3 Sc. Total 179.

**16b <sup>2</sup>hf.** Professor MACVANE, assisted by Mr. BEATMAN. — History of Continental Europe since the Fall of Napoleon I.

7 Gr., 16 Se., 33 Ju., 88 So., 9 Fr., 3 Sp., 3 Sc. Total 159.

**18a <sup>1</sup>hf.** Asst. Professor COOLIDGE, assisted by Mr. BLAIR. — The Expansion of Europe since 1815.

5 Gr., 29 Se., 18 Ju., 8 So., 1 Fr., 4 Sp., 1 Sc. Total 66.

**18b <sup>2</sup>hf.** Asst. Professor COOLIDGE, assisted by Mr. BLAIR. — Studies in the Expansion of Europe since 1815.

1 Gr., 7 Se., 6 Ju. Total 14.

**15.** Asst. Professor COOLIDGE. — History of North-Eastern Europe (Denmark, Sweden, Poland, Russia) from 1453 to 1795.

3 Gr., 3 Se., 3 Ju., 1 So. Total 10.

**30.** Mr. JOHNSTON. — History of Italy from 1789 to 1870. 2 Se., 1 Ju. Total 3.

**10.** Professor CHANNING, assisted by Mr. USHER. — American History to 1783.

5 Gr., 5 Se., 61 Ju., 74 So., 2 Fr., 9 Sp., 3 Sc. Total 159.

**13.** Professor A. B. HART, assisted by Mr. SHEPARD. — Constitutional and Political History of the United States (1783–1865).

6 Gr., 9 Se., 69 Ju., 47 So., 3 Fr., 4 Sp., 1 Sc. Total 139.

*Primarily for Graduates: —*

**†17 <sup>2</sup>hf.** Professor J. H. WRIGHT. — Introduction to Greek Constitutional History.

2 Gr., 1 Ju., 1 So., 1 R. Total 5.

**†21.** Professor HASKINS. — Introduction to the Sources of Mediaeval History.

3 Gr., 1 R. Total 4.

**†24.** Professor E. C. MOORE. — The Church since the Reformation.

2 Gr., 3 Se., 4 So., 1 Sp., 3 Di., 1 R. Total 14.

**23a <sup>1</sup>hf.** Professor CHANNING. — Selected Topics in the historical development of American Institutions. Early American History. 10 Gr. Total 10.

**23b <sup>2</sup>hf.** Professor CHANNING. — Selected Topics in the historical development of American Institutions. The Administrations of Thomas Jefferson.

7 Gr. Total 7.

COURSES OF RESEARCH.

**†20b.** Professor GROSS. — English Institutions in the Middle Ages.

1 Gr., 1 R. Total 2.

**20c.** Professors CHANNING and HART. — American History and Institutions.

8 Gr. Total 8.

**†20i.** Professor J. H. WRIGHT. — Greek Constitutional History. 1 R. Total 1.

GOVERNMENT.

*Primarily for Undergraduates: —*

**1.** Professor LOWELL, assisted by Dr. PHILBRICK, and Messrs. GEORGE, CLARK, and FIRE. — Constitutional Government (elementary course).

2 Ju., 153 So., 238 Fr., 28 Sp., 10 Sc. Total 431.

*For Undergraduates and Graduates : —*

4. Professor MACVANE, assisted by Mr. H. C. JONES. — Elements of International Law. 11 Gr., 14 Se., 20 Ju., 3 So., 1 Fr., 1 Sc. Total 50.
- 6 <sup>1</sup>/<sub>hf</sub>. Dr. PHILBRICK. — History of Political Theories. 4 Gr., 1 Ju., 7 So., 1 Fr. Total 13.
- 8 <sup>1</sup>/<sub>hf</sub>. Professor EMERTON. — Selected Topics from the Canon Law, with especial reference to the development of the Church Constitution. 1 Se. Total 1.
11. Dr. MUNRO. — Colonial Governments. 1 Gr., 4 Se., 7 Ju., 19 So., 4 Fr., 2 Sp. Total 37.
17. Dr. MUNRO. — Municipal Government. 4 Gr., 14 Se., 35 Ju., 29 So., 2 Fr., 2 Sp., 2 Sc., 1 Law. Total 89.

*Primarily for Graduates : —*

10. Professor LOWELL. — Modern English Government. Studies in the existing political system and in the influence of political parties. 8 Gr., 1 Se., 3 Ju., 1 So. Total 13.
12. Professor A. B. HART. — The American Political System, national, state, and municipal. 17 Gr., 7 Se., 2 Ju. Total 26.
- 19 <sup>1</sup>/<sub>hf</sub>. Professor WAMBAUGH. — Constitutional Law. 3 Gr. Total 3.
- 21 <sup>2</sup>/<sub>hf</sub>. Mr. E. M. PARKER. — Comparative Administration. European and American Systems. 1 Se., 1 So. Total 2.
- 15 <sup>1</sup>/<sub>hf</sub>. Professor BEALE. — International Law as administered by the Courts. Scott's *Cases in International Law*, and selected French, German, and Italian cases. 5 Gr. Total 5.

**Economics.***Primarily for Undergraduates : —*

1. Professor TAUSSIG, Asst. Professor ANDREW, and Messrs. CUSTIS, J. A. FIELD, HOWLAND, MARTIN, and WRIGHT. — Outlines of Economics. 10 Se., 84 Ju., 232 So., 54 Fr., 28 Sp., 30 Sc. Total 438.

*For Undergraduates and Graduates : —*

2. Professor TAUSSIG. — Economic Theory. 6 Gr., 2 Se., 11 Ju., 1 So., 2 Sp. Total 22.
3. Professor CARVER and Mr. J. A. FIELD. — Principles of Sociology. Theories of Social Progress. 10 Gr., 7 Se., 18 Ju., 7 So., 2 Sp., 3 Di. Total 47.
4. Professor RIPLEY. — Statistics. Theory, method, and practice. 7 Gr., 1 Se., 2 So., 1 Sp. Total 11.
- 5 <sup>1</sup>/<sub>hf</sub>. Professor RIPLEY and Mr. DAGGETT. — Economics of Transportation. 5 Gr., 54 Se., 47 Ju., 25 So., 2 Fr., 2 Sp., 4 Sc. Total 139.
6. Asst. Professor SPRAGUE. — Economic and Financial History of the United States. 9 Gr., 13 Se., 42 Ju., 12 So., 2 Sp., 1 Law. Total 79.
- 7a <sup>1</sup>/<sub>hf</sub>. Asst. Professor BULLOCK. — Introduction to Public Finance. 5 Gr., 8 Se., 7 Ju., 5 So., 1 Law. Total 26.
- 7b <sup>2</sup>/<sub>hf</sub>. Asst. Professor BULLOCK. — Theory and Methods of Taxation. 5 Gr., 8 Se., 16 Ju., 12 So., 1 Fr., 1 Sp., 2 Sc. Total 45.

**8a <sup>1</sup>/<sub>2</sub>f.** Asst. Professor ANDREW. — Money. A general survey of currency legislation, experience, and theory in recent times.

5 Gr., 5 Se., 28 Ju., 22 So., 4 Fr., 1 Sp., 3 Sc. Total 68.

**8b <sup>1</sup>/<sub>2</sub>f.** Asst. Professor SPRAGUE. — Banking and the History of the leading Banking Systems. 5 Gr., 24 Se., 37 Ju., 13 So., 2 Fr., 1 Sc. Total 82.

**9a <sup>1</sup>/<sub>2</sub>f.** Professor RIPLEY and Mr. CUSTIS. — Problems of Labor.

10 Gr., 29 Se., 59 Ju., 23 So., 3 Sp., 3 Sc., 1 Law. Total 128.

**9b <sup>2</sup>/<sub>2</sub>f.** Professor RIPLEY and Mr. CUSTIS. — Economics of Corporations.

17 Gr., 31 Se., 95 Ju., 34 So., 1 Fr., 6 Sp., 6 Sc. Total 190.

**10 <sup>1</sup>/<sub>2</sub>f.** Asst. Professor GAY. — Mediaeval Economic History of Europe.

1 Gr. Total 1.

**11.** Asst. Professor GAY. — Modern Economic History of Europe.

3 Gr., 2 Se., 1 Ju., 1 So. Total 7.

**12a <sup>2</sup>/<sub>2</sub>f.** Asst. Professor SPRAGUE. — International Trade.

5 Gr., 7 Se., 3 Ju., 1 So., 2 Sp. Total 18.

**12b <sup>1</sup>/<sub>2</sub>f.** Asst. Professor ANDREW. — Commercial Crises and Cycles of Trade.

2 Gr., 24 Se., 6 Ju., 6 So., 1 Sp., 2 Sc. Total 41.

**14a <sup>1</sup>/<sub>2</sub>f.** Professor CARVER. — The Distribution of Wealth.

5 Gr., 23 Se., 12 Ju., 6 So., 2 Sp., 1 Sc., 2 Di., 1 Law. Total 52.

**14b <sup>2</sup>/<sub>2</sub>f.** Professor CARVER. — Methods of Social Reform. Socialism, Communism, the Single Tax, etc.

10 Gr., 25 Se., 26 Ju., 13 So., 1 Sp., 2 Sc., 2 Di. Total 79.

**16 <sup>1</sup>/<sub>2</sub>f.** Asst. Professor BULLOCK. — Financial History of the United States.

4 Se., 1 Ju., 1 Sp. Total 6.

**18 <sup>1</sup>/<sub>2</sub>f.** Mr. W. M. COLE. — Principles of Accounting.

7 Gr., 14 Se., 2 Ju., 1 So., 1 Sp., 2 Sc. Total 27.

**21.** Asst. Professor WYMAN. — Principles of Law governing Industrial Relations and Commercial Law.

14 Gr., 65 Se., 76 Ju., 15 So., 1 Sp., 9 Sc., 2 Law. Total 182.

*Primarily for Graduates:—*

**†13 <sup>1</sup>/<sub>2</sub>f.** Professor CARVER. — Methods of Economic Investigation.

2 Gr., 2 Se. Total 4.

**15.** Asst. Professor BULLOCK. — History and Literature of Economics to the year 1848.

3 Gr. Total 3.

**22.** Asst. Professor GAY. — German and French Economists of the Nineteenth Century.

3 Gr. Total 3.

#### COURSES OF RESEARCH.

**†20a.** Asst. Professor GAY. — Selected Topics in English Economic History.

1 Gr., 1 R. Total 2.

**20b.** Asst. Professor ANDREW. — Theories of Crises.

1 Gr., 1 Se. Total 2.

#### THE SEMINARY IN ECONOMICS.

**20.** Competent students were guided in investigation, undertaken independently or in connection with courses primarily for graduates; and the results were presented for discussion.

8 Gr. Total 8.



**History of Religions.***For Undergraduates and Graduates :—*

2. Professor G. F. MOORE. — History of Religions in Outline. The Religions of China and Japan, Egypt, Babylonia and Assyria, and the Western Semites (including Judaism and Mohammedanism). The Religions of India, Persia, the Greeks, Romans, Germans, and Celts; Christianity.  
11 Gr., 25 Se., 12 Ju., 24 So., 3 Fr., 4 Sp., 2 Sc., 8 Di. Total 89.

**Philosophy.***Primarily for Undergraduates :—*

- 1a. Professors ROYCE and MÜNSTERBERG. — General Introduction to Philosophy. Logic. Psychology.  
2 Gr., 67 Ju., 87 So., 31 Fr., 11 Sp., 17 Sc. Total 215.
- 1b. Professor PALMER and Dr. R. B. PERRY. — Outlines of the History of Philosophy, Ancient and Modern.  
1 Gr., 38 Ju., 45 So., 10 Fr., 10 Sp. Total 104.

*For Undergraduates and Graduates :—*

- 2 <sup>1</sup>hf. Dr. HOLT. — Advanced Psychology.  
4 Gr., 2 Se., 3 Ju., 1 So., 1 Sp. Total 11.
- 13a <sup>1</sup>hf. Dr. YERKES. — Comparative Psychology (Phylogenetic).  
7 Gr., 6 Se., 3 Ju., 1 Sc. Total 17.
- 13b <sup>2</sup>hf. Dr. YERKES. — Mental Development (Ontogenetic).  
9 Gr., 7 Se., 10 Ju., 8 So., 1 Fr., 1 Sp., 3 Sc. Total 39.
- 14 <sup>2</sup>hf. Dr. HOLT. — Experimental Psychology (elementary laboratory course).  
3 Gr., 1 Se., 4 Ju., 2 So., 1 Sp. Total 11.
3. Dr. R. B. PERRY. — The Philosophy of Nature, with especial reference to Man's place in Nature. Fundamental Conceptions of Natural Science, and their relation to Ethical and Religious Truth.  
3 Gr., 2 Se., 4 Ju., 1 So., 1 Di. Total 11.
4. Professor PALMER. — Ethics. The Theory of Morals, considered constructively.  
12 Gr., 11 Se., 11 Ju., 6 So., 4 Sp., 9 Di. Total 53.
- 5 <sup>1</sup>hf. Professor PEABODY, assisted by Dr. ROGERS. — Ethics of the Social Questions. The problems of Poor-Relief, the Family, Temperance, and various phases of the Labor Question, in the light of ethical theory.  
7 Gr., 35 Se., 47 Ju., 12 So., 1 Fr., 4 Sp., 5 Sc., 11 Di. Total 122.
- 19 <sup>2</sup>hf. Dr. BRACKETT. — Practical Problems of Charity, Public Aid and Correction.  
4 Gr., 16 Se., 6 Ju., 1 So., 2 Sp., 4 Di. Total 33.
9. Professors JAMES and ROYCE. — Metaphysics. The Fundamental Problems of Theoretical Philosophy. The Nature of Reality; Monism and Pluralism; Freedom, Teleology, and Theism.  
14 Gr., 6 Se., 8 Ju., 1 So., 1 Sp., 5 Di. Total 35.
12. Dr. R. B. PERRY. — Greek Philosophy, with especial reference to Plato.  
3 Gr., 1 Ju., 1 So. Total 5.

11a <sup>1</sup>/<sub>hf</sub>. Dr. Woods. — Descartes, Spinoza, and Leibnitz.

1 Gr., 1 Se., 2 Ju., 1 So. Total 5.

8. Professor Royce. — The Kantian Philosophy.

6 Gr., 1 Ju., 1 So., 1 Di. Total 9.

17. Professor E. C. Moore. — History of Christian Thought since Kant.

1 Gr., 3 Se., 1 Ju., 23 Di. Total 28.

7 <sup>1</sup>/<sub>hf</sub>. Dr. Woods. — Science of Religion.

4 Gr., 1 Ju., 2 Di. Total 7.

#### SEMINARY COURSES.

*Primarily for Graduates : —*

†20a. Professor MÜNSTERBERG, and Drs. HOLT and YERKES. — Psychological Laboratory. Experimental investigations.

6 Gr., 1 Ju., 1 Di., 2 R., 1 Lectr. Total 11.

20b. Professor MÜNSTERBERG. — Psychological Seminary. Mind and Body.

11 Gr., 1 Di. Total 12.

†20c. Professor Royce. — Logical Seminary. The Logical Analysis of Fundamental Concepts and their General Relations to Philosophical Problems.

7 Gr., 1 Sp., 2 Di., 2 R. Total 12.

†20d. Professor PALMER. — Ethical Seminary. The Ethics of German Idealism.

10 Gr., 1 Se., 2 Di., 3 R. Total 16.

†20e. Professor PEABODY. — Sociological Seminary. Religion and the Social Question.

3 Gr., 13 Di., 1 R. Total 17.

#### Education.

*For Undergraduates and Graduates : —*

1. Mr. A. O. NORTON. — History of Educational Theories and Practices.

7 Gr., 2 Se., 4 Ju., 7 So., 2 Sp., 4 Sc. Total 26.

2a <sup>1</sup>/<sub>hf</sub>. Mr. A. O. NORTON. — Introduction to the Study of Education. Discussion of Educational Principles.

8 Gr., 8 Se., 8 Ju., 9 So., 2 Sp., 9 Sc. Total 44.

*Primarily for Graduates : —*

†8. Mr. ALDRICH and Mr. A. O. NORTON. — Organization and Management of Public Schools and Academies. Supervision, Courses of Study, and Teaching.

8 Gr., 7 Se., 2 Ju., 1 So., 1 Sp., 8 Sc., 6 R. Total 33.

#### SEMINARY COURSE.

20a. Mr. A. O. NORTON. — Seminary. Contemporary Problems in Education.

7 Gr. Total 7.

#### The Fine Arts.

*Primarily for Undergraduates : —*

1. Professor CHARLES H. MOORE, assisted by Mr. MOWER. — Principles of Delineation, Color, and Chiaroscuro, with some consideration of historic forms of Art, and the conditions which have influenced them.

1 Gr., 7 Ju., 7 So., 17 Fr., 2 Sp., 16 Sc. Total 50.

2. Professor CHARLES H. MOORE. — Principles of Design in Architecture, Sculpture, and Painting, as exemplified in the Arts of past ages.

2 Gr., 8 Ju., 3 So., 3 Sc. Total 16.

*For Undergraduates and Graduates : —*

3. Dr. CHASE. — History of Ancient Art. Architecture, Sculpture, and Painting in Egypt, Assyria, and Greece, with some account of the lesser arts.

1 Gr., 13 Se., 33 Ju., 37 So., 5 Fr., 9 Sc. Total 98.

4. Professor CHARLES H. MOORE, assisted by Mr. POPE. — The Fine Arts of the Middle Ages and the Renaissance.

2 Gr., 14 Se., 22 Ju., 9 So., 1 Fr., 3 Sp., 5 Sc., 3 Di. Total 59.

*Primarily for Graduates : —*

- †20b. Professor CHARLES H. MOORE. — History and Principles of Engraving.

3 Se., 1 Ju. Total 4.

**Architecture.**

*The courses in Architecture are intended primarily for students in the Lawrence Scientific School, and only Courses 1a, 1b, 1c, 7a, 20b (and 2a when it is taken in connection with 1a) may be counted towards the degree of A.B.*

- 1a. Professor H. L. WARREN, assisted by Mr. SWAN. — Technical and Historical Development of the Ancient Styles, with especial reference to Classic Architecture.

3 Gr., 2 Se., 6 Ju., 3 So., 1 Fr., 18 Sc. Total 38.

- 1b. Professor H. L. WARREN, assisted by Mr. MOWLL. — Technical and Historical Development of the Mediaeval Styles of Architecture.

2 Gr., 3 Se., 5 Ju., 2 So., 24 Sc. Total 36.

- 2a. Professor H. L. WARREN, and Mr. SWAN. — Elementary Architectural Drawing. Elements of Architectural Form. The Orders.

2 Gr., 2 Se., 5 Ju., 3 So., 16 Sc. Total 28.

- 2b. Mr. MOWLL. — Descriptive Geometry. Shades, Shadows, Perspective, and Stereotomy.

1 Gr., 3 Ju., 1 So., 15 Sc. Total 20.

- 3a. Mr. MOWLL and Mr. SWAN. — Freehand Drawing.

3 Gr., 4 Se., 2 Ju., 1 So., 14 Sc. Total 24.

- 3b. Mr. H. B. WARREN, assisted by Mr. SWAN. — Freehand Drawing (second course).

3 Gr., 1 Ju., 16 Sc. Total 20.

- 3c. Mr. H. B. WARREN, assisted by Mr. SWAN. — Freehand Drawing (third course).

5 Sc. Total 5.

- 4a. Professor H. L. WARREN and Mr. MOWLL. — Elementary Architectural Design.

4 Gr., 3 Se., 5 Ju., 1 So., 15 Sc. Total 28.

- 4b. Professor H. L. WARREN and Mr. MOWLL. — Architectural Design (second course).

1 Gr., 11 Sc. Total 12.

- 4c. Professor H. L. WARREN and Mr. MOWLL. — Architectural Design (third course).

5 Sc. Total 5.

- 5<sup>1</sup>hf. Mr. SWAN. — Building Construction : Carpentry.

2 Gr., 16 Sc. Total 18.

- 6 hf. Mr. GARBUTT. — Modelling.

6 Sc. Total 6.

- 7a<sup>2</sup>hf. Dr. ROSS. — Theory of Pure Design, Balance, Rhythm, and Harmony.

4 Gr., 5 Se., 10 Ju., 6 So., 3 Fr., 2 Sp., 19 Sc. Total 49.

*Primarily for Graduates : —*

- 8d. Mr. H. B. WARREN. — Freehand Drawing (fourth course).

2 Gr. Total 2

- 4d. Professor H. L. WARREN and Mr. MOWLL. — Architectural Design (advanced course).

2 Gr. Total 2

## COURSES OF RESEARCH.

**20a.** Professor H. L. WARREN. — Competent Graduate Students who satisfied the instructor of their fitness to pursue advanced work were directed in the study of special periods in the history of architecture.

2 Gr., 1 Se. Total 3.

**20b<sup>2</sup>hf.** Dr. ROSS. — Advanced Practice in Pure Design or in Representation.

2 Gr., 4 Se., 1 So. Total 7.

## Landscape Architecture.

*For Undergraduates and Graduates:—*

**0<sup>1</sup>hf.** Mr. SHURTLEFF. — Details of Construction. 3 Gr., 5 Sc. Total 8.

**1.** Professor OLMSTED and Mr. PRAY, with five lectures by Professors GOODALE and SHALER. — Principles of Landscape Architecture.

5 Gr., 4 Se., 9 Ju., 7 So., 4 Fr., 1 Sp., 11 Sc., 2 Bu. Total 48.

**2.** Professor OLMSTED and Mr. PRAY. — Practice in Design (first course).

4 Gr., 2 Sc. Total 6.

**3.** Professor OLMSTED and Mr. SHURTLEFF. — Practice in Design (second course).

1 Gr., 2 Sc. Total 3.

*Primarily for Graduates:—*

**20.** Graduate Students and others suitably prepared were allowed to pursue special advanced work under the direction of Professor OLMSTED.

1 Gr. Total 1.

## Music.

*For Undergraduates and Graduates:—*

**1.** Asst. Professor SPALDING. — Harmony.

1 Gr., 2 Se., 6 Ju., 7 So., 16 Fr., 5 Sp., 1 Sc. Total 38.

**1a.** Mr. CONVERSE. — Harmony (advanced course). 2 Sp. Total 2.

**2.** Asst. Professor SPALDING. — Counterpoint.

1 Gr., 1 Se., 3 Ju., 10 So., 3 Sp., 1 Sc. Total 19.

**2a hf.** Asst. Professor SPALDING. — Vocal Counterpoint, with analysis of choral works of the great composers. 2 Gr., 4 Ju., 3 So., 1 Sp. Total 10.

**3.** Professor PAINE. — History of Music.

12 Se., 35 Ju., 37 So., 5 Fr., 6 Sp., 3 Sc. Total 98.

**4.** Asst. Professor SPALDING. — Musical Form, with analysis of the works of the great composers. 4 Se., 6 Ju., 11 So., 3 Sp. Total 24.

*Primarily for Graduates:—*

**‡5.** Mr. CONVERSE. — Canon and Fugue. Free Thematic Music.

2 Se., 5 Ju. Total 7.

**‡6.** Professor PAINE. — Advanced Fugue and Free Composition.

1 Se., 1 Sp. Total 2.

**‡7.** Professor PAINE and Asst. Professor SPALDING. — Instrumentation.

2 Se., 3 Ju., 1 So., 3 R. Total 9.

**Mathematics.***Primarily for Undergraduates : —*

**F.** Asst. Professor BOUTON and Mr. WHITTEMORE. — Trigonometry and Plane Analytic Geometry. 3 Se., 6 Ju., 18 So., 67 Fr., 4 Sp., 1 Sc. Total 99.

**C.** Professor BYERLY. — Plane and Solid Analytic Geometry (extended course).  
4 So., 25 Fr., 3 Sp. Total 32.

**D<sup>2</sup>hf.** Dr. COOLIDGE. — Algebra.

2 Se., 4 Ju., 17 So., 37 Fr., 1 Sp., 1 Sc. Total 62.

**E<sup>1</sup>hf.** Asst. Professor BOUTON, Dr. COOLIDGE, and Mr. WHITTEMORE. — Solid Geometry.

6 Se., 7 Ju., 15 So., 28 Fr., 4 Sp., 27 Sc., 1 Me., 1 Law. Total 89.

**G<sup>2</sup>hf.** Asst. Professor BOUTON. — Descriptive Geometry.

1 Gr., 2 Se., 3 Ju., 4 So., 3 Fr. Total 13.

2. Professor BYERLY. — Differential and Integral Calculus (first course).

1 Gr., 1 Se., 9 Ju., 28 So., 2 Fr., 2 Sp., 3 Sc. Total 46.

4. Professor OSGOOD. — The Elements of Mechanics.

4 Gr., 3 Se., 5 Ju., 7 So., 2 Sp., 2 Sc. Total 23.

*For Undergraduates and Graduates : —*

3. Professor BÔCHER. — Introduction to Modern Geometry and Modern Algebra.

1 Gr., 5 Ju., 4 So., 1 Sp. Total 11.

5. Professor OSGOOD. — Differential and Integral Calculus (second course).

1 Gr., 1 Se., 6 Ju., 4 So., 1 Sp. Total 13.

12<sup>1</sup>hf. Professor OSGOOD. — Infinite Series and Products.

3 Gr., 1 Se. Total 4.

14b<sup>2</sup>hf. Professor OSGOOD. — Algebra. Galois's Theory of Equations.

3 Gr., 1 R. Total 4.

8. Professor J. M. PEIRCE. — Dynamics of a Rigid Body.

3 Gr., 1 Ju. Total 4.

*Primarily for Graduates : —*

†13. Professor BÔCHER. — The Theory of Functions (introductory course).

8 Gr., 2 Se., 1 Sc., 1 R. Total 12.

†7a. Professor J. M. PEIRCE. — Triangular Coördinates of Points and Lines in a Plane. The General Theory of Algebraic Plane Curves. Plane Curves of the Third Degree in Point and Line Coördinates. 2 Gr., 2 Se. Total 4.

†22. Mr. WHITTEMORE. — Introduction to the Differential Geometry of Curves and Surfaces. 3 Gr., 1 R. Total 4.

†9b. Professor J. M. PEIRCE. — The Application of Quaternions to the Theory of Curves and Surfaces. 1 Se. (as first half-year only). Total 1.

†10. Professors BYERLY and B. O. PEIRCE. — Trigonometric Series. Introduction to Spherical Harmonics. The Potential Function.

4 Gr., 2 Se., 1 Ju. Total 7.

†32b<sup>1</sup>hf. Mr. WHITTEMORE. — The Theory of the Form and the Rotation of the Planets. 1 Se. Total 1.

- †15. Asst. Professor BOUTON. — Differential Equations, with an introduction to Lie's Theory of Continuous Groups. 8 Gr., 1 R. Total 9.
- †30. Professor BÔCHER. — Linear Differential Equations, Total and Partial. 4 Gr., 2 R. Total 6.
- 27 <sup>1</sup>/<sub>2</sub>hf. Dr. E. V. HUNTINGTON. — The Fundamental Concepts of Mathematics. 1 So., 1 Sp., 1 Sc., 1 R. Total 4.

## COURSES OF READING AND RESEARCH.

- †20f. Professor BÔCHER. — Topics in the Theory of Differential Equations. 1 R. Total 1.
- †20g. Asst. Professor BOUTON. — Topics in the Theory of Continuous Groups. 1 R. Total 1.
- †20i. Dr. COOLIDGE. — Topics in Higher Geometry. 1 Gr. Total 1.

## Astronomy.

*Primarily for Undergraduates: —*

- 1 <sup>1</sup>/<sub>2</sub>hf. Professor WILLSON and Mr. BRENKE. — Descriptive Astronomy. 19 Se., 34 Ju., 47 So., 6 Fr., 5 Sp., 19 Sc. Total 130.
- 2 <sup>2</sup>/<sub>3</sub>hf. Professor WILLSON and Mr. BRENKE. — Practical Astronomy. Application of Astronomy to Navigation and Exploration. 3 Se., 3 Ju., 7 So., 1 Fr., 6 Sc. Total 20.

*For Undergraduates and Graduates: —*

3. Professor WILLSON. — Practical Astronomy. 2 Gr., 1 Se., 1 So. Total 4.

*Primarily for Graduates: —*

5. Professor WILLSON. — Practical Astronomy. Instruments of the fixed observatory. Meridian Circle; almucantar; equatorial instrument; absolute determinations. 1 Se. Total 1.

## Physics.

*Primarily for Undergraduates: —*

- B. Professor HALL, Dr. G. W. PIERCE, and Mr. J. M. ADAMS. — Experimental Physics (elementary course).

1 Gr., 1 Se., 6 Ju., 20 So., 39 Fr., 13 Sp., 32 Sc. Total 112.

- C. Asst. Professor SABINE and Dr. H. W. MORSE. — Experimental Physics. Mechanics, Sound, Light, Magnetism, and Electricity.

2 Gr., 6 Se., 23 Ju., 36 So., 48 Fr., 4 Sp., 79 Sc. Total 198.

1. Professor HALL and Mr. SERVISS. — General Descriptive Physics.

1 Gr., 2 Se., 6 Ju., 5 So., 7 Fr., 2 Sp., 13 Sc. Total 36.

- 2 <sup>1</sup>/<sub>2</sub>hf. Asst. Professor SABINE. — The Theory of Light in its application to familiar optical phenomena and to optical instruments.

1 Gr., 2 Se., 1 So., 3 Sc. Total 7.

- 11 <sup>1</sup>/<sub>2</sub>hf. Dr. H. W. MORSE. — The Theory of Primary and Secondary Batteries.

1 Se., 4 Ju., 2 So., 1 Sc. Total 8.

*For Undergraduates and Graduates: —*

3. Professor B. O. PEIRCE and Dr. AYRES. — Electrostatics, Electrokinematics, and parts of Electromagnetism.

1 Gr., 4 Ju., 6 So., 1 Sp., 18 Sc. Total 30.

12 <sup>1</sup>/<sub>2</sub>hf. Dr. T. LYMAN. — Radioactivity and Electric Conduction in Gases with special reference to the Theory of Ions. 2 Gr., 2 Ju., 2 Sc. Total 6.

4. Professor TROWBRIDGE, Dr. G. W. PIERCE, and Dr. T. LYMAN. — Magnetism, Electromagnetism, and Electrodynamics. 3 Gr., 3 Ju., 10 Sc. Total 16.

5. Asst. Professor SABINE. — Light. 2 Gr., 1 Se., 1 Ju., 1 Sp. Total 5.

6a <sup>1</sup>/<sub>2</sub>hf. Professor HALL. — Elements of Thermodynamics. 3 Gr., 2 Se., 1 Ju., 1 So., 1 Sp. Total 8.

6b <sup>3</sup>/<sub>2</sub>hf. Professor HALL. — Modern Developments and Applications of Thermodynamics. 2 Gr., 1 Se., 1 Ju. Total 4.

14 <sup>3</sup>/<sub>2</sub>hf. Dr. H. W. MORSE. — The Theory of Photography. 5 Se., 1 So., 3 Sc. Total 9.

15 <sup>3</sup>/<sub>2</sub>hf. Dr. G. W. PIERCE. — Radiation. 3 Gr., 1 Se., 1 Ju. Total 5.

*Primarily for Graduates : —*

†7 <sup>1</sup>/<sub>2</sub>hf. Professor HALL. — The Theory of Probability and the Kinetic Theory of Gases. 4 Gr., 1 Se. Total 5.

†9. Professor B. O. PEIRCE. — The Mathematical Theory of Electricity and Magnetism. 7 Gr., 1 Ju. Total 8.

COURSES OF RESEARCH.

20a. Professor TROWBRIDGE. — Light and Electricity. 2 Gr. Total 2.

20c. Professor HALL. — Heat and Electricity. 3 Gr. Total 3.

20d. Asst. Professor SABINE. — Light and Heat. 2 Gr. Total 2.

20e. Dr. G. W. PIERCE. — Radiation and Electromagnetic Waves. 1 Gr. Total 1.

20f. Dr. H. W. MORSE. — Molecular Physics. 1 Gr. Total 1.

Chemistry.

*Primarily for Undergraduates : —*

1. Professors C. L. JACKSON and SANGER, Mr. R. F. JACKSON, and seven assistants. — Descriptive Inorganic Chemistry. 5 Gr., 4 Se., 35 Ju., 67 So., 105 Fr., 17 Sp., 98 Sc., 1 Bu. Total 332.

2 <sup>1</sup>/<sub>2</sub>hf. Dr. TORREY. — Organic Chemistry (elementary course). 1 Gr., 13 Se., 20 Ju., 28 So., 1 Fr., 1 Sp., 24 Sc. Total 88.

3. Professor SANGER and Dr. TORREY, Dr. R. C. WELLS, Mr. LANGMAID, and four assistants. — Qualitative Analysis. 6 Gr., 13 Se., 21 Ju., 35 So., 4 Fr., 2 Sp., 35 Sc. Total 116.

4. Dr. BAXTER and Mr. FREVERT. — Quantitative Analysis, gravimetric and volumetric. 2 Gr., 3 Se., 9 Ju., 3 So., 14 Sc. Total 31.

*For Undergraduates and Graduates : —*

8 <sup>3</sup>/<sub>2</sub>hf. Professor RICHARDS and Dr. R. C. WELLS. — The Historical Development of Chemical Theory. 5 Gr., 3 Se., 15 Ju., 18 So., 1 Sp., 21 Sc. Total 63.

**11. Dr. PRINGSHEIM. — Industrial Chemistry.**

8 Gr., 5 Se., 6 Ju., 12 Sc. Total 31.

**9 <sup>1</sup>/<sub>2</sub>hf. Dr. BAXTER and Mr. GRIFFIN. — Advanced Quantitative Analysis.**

6 Gr., 6 Se., 7 Ju., 1 Fr., 7 Sc. Total 27.

**10 <sup>2</sup>/<sub>3</sub>hf. Dr. BAXTER and Mr. GRIFFIN. — Gas Analysis.**

6 Gr., 3 Se., 5 Ju., 1 Fr., 5 Sc. Total 20.

**5. Dr. TORREY. — The Carbon Compounds.**

9 Gr., 8 Se., 12 Ju., 1 So., 12 Sc. Total 42.

**5a hf. Dr. TORREY and Mr. RUSSE. — The Carbon Compounds. Laboratory work.**

7 Gr., 5 Se., 8 Ju., 1 So., 8 Sc. Total 29.

**15 <sup>2</sup>/<sub>3</sub>hf. Dr. HENDERSON. — General Biological Chemistry.**

8 Gr., 6 Se., 11 Ju., 2 So., 7 Sc. Total 34.

***Primarily for Graduates: —*****6. Professor RICHARDS and Mr. FORBES. — Physical Chemistry.**

9 Gr., 6 Se., 1 Ju., 1 Sc. Total 17.

**12 <sup>1</sup>/<sub>2</sub>hf. Dr. BAXTER. — Photochemistry, including the use of Optical Instruments in Chemistry.**

4 Gr., 1 Ju., 2 Sc. Total 7.

**7 <sup>2</sup>/<sub>3</sub>hf. Dr. R. C. WELLS. — Electrochemistry.**

8 Gr., 3 Se., 1 Ju., 1 Sc. Total 13.

**13 <sup>2</sup>/<sub>3</sub>hf. Dr. R. C. WELLS. — Experimental Electrochemistry.**

2 Gr., 1 Se., 1 Sc. Total 4.

**COURSES OF RESEARCH.****20b. Professor C. L. JACKSON. — Organic Chemistry.** 4 Gr. Total 4.**20c. Dr. TORREY. — Organic Chemistry.** 3 Gr. Total 3.**20d. Professor RICHARDS. — Physical Chemistry.** 7 Gr. Total 7.**20e. Professor SANGER. — Applied Chemistry.** 1 Gr. Total 1.**20f. Dr. BAXTER. — Inorganic Chemistry.** 1 Gr., 1 Se., 2 Sc. Total 4.**Engineering.**

*The courses in Engineering are intended primarily for students in the Lawrence Scientific School, but many of them may be counted towards the degree of A.B. The Catalogue shows what courses may be so counted.*

**1a <sup>1</sup>/<sub>2</sub>hf. Asst. Professor LOVE, Mr. FRIZELL, Dr. HUNTINGTON, and Mr. A. E. NORTON. — Algebra.** 3 Ju., 4 So., 6 Fr., 108 Sc. Total 121.**1b <sup>1</sup>/<sub>2</sub> or <sup>2</sup>/<sub>3</sub>hf. Asst. Professor LOVE, Mr. FRIZELL, and Dr. HUNTINGTON. — Trigonometry.** 3 Se., 11 Ju., 29 So., 17 Fr., 1 Sp., 100 Sc. Total 161.**1d <sup>2</sup>/<sub>3</sub>hf. Asst. Professor LOVE, Mr. FRIZELL, Dr. HUNTINGTON, and Mr. A. E. NORTON. — Analytic Geometry.** 3 Ju., 5 So., 5 Fr., 114 Sc. Total 127.**1c. Asst. Professor LOVE, Mr. FRIZELL, Dr. HUNTINGTON, and Mr. A. E. NORTON. — Differential and Integral Calculus.**

1 Gr., 2 Se., 14 Ju., 3 So., 1 Sp., 69 Sc. Total 90.

**3a. Asst. Professor KENNEDY, Messrs. A. E. NORTON, L. ROSS, and ALDEN. — Mechanical Drawing.**

2 Gr., 4 Se., 9 Ju., 17 So., 22 Fr., 2 Sp., 89 Sc. Total 145.



**3b<sup>2</sup>hf.** Mr. MOYER. — Descriptive Geometry.

1 Gr., 3 Se., 11 Ju., 4 So., 1 Fr., 51 Sc. Total 71.

**3d<sup>1</sup>hf.** Asst. Professor KENNEDY and Mr. A. E. NORTON. — Mechanism. Study of Gearing and Mechanical Movements.

2 Gr., 3 Se., 12 Ju., 3 So., 1 Fr., 62 Sc. Total 83.

**4a.** Asst. Professor HUGHES and assistants. — Plane Surveying. (See page 95.)

3 Gr., 1 Se., 20 Ju., 27 So., 11 Fr., 44 Sc., 1 Law. Total 107.

**4c.** Asst. Professor HUGHES and assistants. — Geodetic Surveying. (See page 95.)

10 Ju., 21 So., 6 Fr., 37 Sc., 1 Law. Total 75.

**4d.** Asst. Professor HUGHES and assistants. — Railroad Surveying. (See page 95.)

3 Gr., 11 Ju., 21 So., 6 Fr., 40 Sc., 1 Law. Total 82.

**10a.** Messrs. WHITING and MARKHAM. — Chipping, Filing, and Fitting. (See page 95.)

1 Gr., 1 Se., 4 Ju., 1 So., 1 Fr., 28 Sc. Total 36.

**10b.** Messrs. WHITING and MARKHAM. — Blacksmithing. (See page 95.)

1 Gr., 1 Se., 4 Ju., 1 So., 1 Fr., 27 Sc. Total 35.

**10c.** Messrs. WHITING and MARKHAM. — Pattern-making and Foundry Practice. (See page 95.)

1 Gr., 1 Se., 4 Ju., 1 So., 1 Fr., 26 Sc. Total 34.

**10e.** Messrs. WHITING and MARKHAM. — Machine Shop Practice. (See page 95.)

1 Gr., 1 Se., 4 Ju., 1 So., 1 Fr., 27 Sc. Total 35.

*For Undergraduates and Graduates : —*

**4e<sup>2</sup>hf.** Professor OLMTED, Asst. Professor HUGHES, and Mr. PRAY. — Road Making and Maintenance.

4 Gr., 19 Sc. Total 23.

**4f<sup>2</sup>hf.** Asst. Professor HUGHES. — Railroad Engineering (second course). Problems in railroad construction and maintenance.

1 Se., 14 Sc. Total 15.

**5b<sup>1</sup>hf.** Asst. Professor JOHNSON and Mr. MOYER. — Elementary Statics. Graphic and Algebraic Methods.

2 Gr., 7 Se., 20 Ju., 8 So., 88 Sc. Total 125.

**5e<sup>2</sup>hf.** Asst. Professor JOHNSON and Mr. MOYER. — Elementary Kinematics and Kinetics and problems in Statics.

3 Se., 13 Ju., 3 So., 56 Sc. Total 75.

**5d<sup>2</sup>hf.** Mr. MOYER. — Resistance of Materials (introductory course). Elementary Structural Design.

1 Gr., 1 Se., 3 Ju., 1 Fr., 7 Sc. Total 13.

**5a.** Professor HOLLIS and Mr. L. ROSS. — Applied Mechanics.

2 Gr., 4 Se., 4 Ju., 57 Sc. Total 67.

**5c<sup>1</sup>hf.** Professor HOLLIS. — Resistance of Materials (second course).

24 Sc. Total 24.

**6a<sup>2</sup>hf.** Asst. Professor HUGHES. — Hydraulics and Hydraulic Motors.

4 Se., 4 Ju., 46 Sc. Total 54.

**6c<sup>1</sup>hf.** Asst. Professor HUGHES. — Water Supply and Sanitary Engineering.

2 Gr., 17 Sc. Total 19.

**6d<sup>1</sup>hf.** Asst. Professor HUGHES. — Canals, Rivers, and Harbors. Irrigation.

16 Sc. Total 16.

- 7a. Asst. Professor JOHNSON. — Bridges and Buildings. Design of Framed Structures. 16 Sc. Total 16.
- 8a <sup>2</sup>hf. Asst. Professor JOHNSON. — Building Stones, Masonry and Foundations. 1 Gr., 1 Se., 1 Ju., 35 Sc. Total 38.
- 11a <sup>2</sup>hf. Asst. Professor MARKS, Messrs. MARKHAM and TYNG. — Steam Machinery (introductory course). 2 Gr., 5 Se., 16 Ju., 11 So., 1 Fr., 84 Sc. Total 119.
- 12b <sup>1</sup>hf. Asst. Professor MARKS and Mr. TYNG. — Elements of Thermodynamics. Theory of Heat Engines. 2 Gr., 4 Se., 4 Ju., 53 Sc. Total 63.
- 12a <sup>1</sup>hf. Asst. Professor MARKS. — Efficiency and Economics of Heat Engines. 8 Sc. Total 8.
- 12c <sup>1</sup>hf. Mr. BURKE. — Heating and Ventilation. 15 Sc. Total 15.
- 13a. Asst. Professor MARKS, Messrs. MOYER and TYNG. — Engineering Laboratory. Introductory course in experimental methods. 1 Gr., 5 Se., 4 Ju., 51 Sc. Total 61.
- 13b. Asst. Professor MARKS and Mr. MOYER. — Engineering Laboratory (second course). 6 Sc. Total 6.
- 14a <sup>2</sup>hf. Asst. Professor KENNEDY. — Machine Design (introductory course). 1 Gr., 3 Se., 3 Ju., 20 Sc. Total 27.
- 14b. Professor HOLLIS. — Machine Design (second course). 7 Sc. Total 7.
- 16a. Professor KENNELLY, Messrs. WHITING and ANDEREGG. — Generation, Transmission, and Utilization of Electrical Energy (elementary course). 1 Gr., 3 Se., 3 Ju., 25 Sc. Total 32.
- 16c. Professor KENNELLY. — Direct Current Dynamo-Electric Machinery. 1 Se., 2 Ju., 19 Sc. Total 22.
- 16e. Professor KENNELLY and Mr. ANDEREGG. — Alternating Currents and Alternating Current Machinery. 1 Se., 17 Sc. Total 18.
- 16d. Mr. ANDEREGG. — Dynamo Design. 15 Sc. Total 15.
- 16f. Mr. WHITING. — Electrical Engineering Laboratory. 2 Gr., 1 Se., 20 Sc. Total 23.
- 17a <sup>1</sup>hf. Professor KENNELLY. — Electric Transmission and Distribution of Power. 1 Se., 1 Ju., 18 Sc. Total 20.
- 17b <sup>2</sup>hf. Professor KENNELLY. — Telegraphy and Telephony. 1 Gr., 1 Se., 1 Ju., 19 Sc. Total 22.
21. Professor HOLLIS. — Conference on Engineering Subjects. 33 Sc. Total 33.
- 22<sup>2</sup>. Asst. Professor WYMAN. — Contracts and Specifications. The Principles of Common Law as applied to Contracts. 3 Se., 2 Ju., 1 So., 33 Sc. Total 39.

**Forestry.***For Undergraduates and Graduates : —*

- 1 <sup>1</sup>/<sub>2</sub>hf. Mr. FISHER. — Silviculture. 4 Gr., 1 Se., 1 Ju., 1 So., 7 Sc. Total 14.
- 2 <sup>1</sup>/<sub>2</sub>hf. Mr. CARTER. — Forest Measurements. 1 Se., 1 So., 3 Sc. Total 5.
3. Mr. JACK. — Forest Botany. 3 Gr., 1 Se., 2 Ju., 2 So., 3 Sc. Total 11.
- 4 <sup>2</sup>/<sub>3</sub>hf. Mr. FISHER. — Forest Protection.  
3 Gr., 1 Se., 3 Ju., 1 So., 5 Sc. Total 13.
- 5 <sup>1</sup>/<sub>2</sub>hf. Mr. CARTER. — Forest History. 1 Gr., 6 Sc. Total 7.
6. Messrs. CARTER and FISHER. — Lumbering. 1 Gr., 2 Sc. Total 3.
7. Messrs. FISHER and CARTER. — Forest Management. 1 Gr., 1 Sc. Total 2.

**Botany.***Primarily for Undergraduates : —*

- 1 <sup>2</sup>/<sub>3</sub>hf. Professor GOODALE and assistants. — Botany (introductory course).  
3 Gr., 21 Se., 26 Ju., 48 So., 70 Fr., 7 Sp., 43 Sc., 1 Bu. Total 219.
- 2 <sup>1</sup>/<sub>2</sub>hf. Professor THAXTER and two assistants. — Morphology of Plants.  
5 Gr., 7 Se., 5 Ju., 13 So., 1 Sp., 11 Sc. Total 42.

*For Undergraduates and Graduates : —*

- 3a <sup>1</sup>/<sub>2</sub>hf. Asst. Professor JEFFREY and an assistant. — Morphology, Histology, and Cytology of Flowering Plants. 1 Gr., 1 So., 4 Sc. Total 6.
- 3b <sup>2</sup>/<sub>3</sub>hf. Asst. Professor JEFFREY and an assistant. — Ecology and Physiology of Flowering Plants. 1 Gr., 1 Se., 1 Ju., 4 Sc., 1 Bu. Total 8.
- 6 <sup>2</sup>/<sub>3</sub>hf. Professor THAXTER and an assistant. — The Bacteria, Mycetozoa, and Higher Fungi. 2 Gr., 3 Se., 7 Ju., 2 So., 7 Sc. Total 21.
7. Mr. FERNALD. — Classification of Flowering Plants, with special reference to the Flora of New England and the Maritime Provinces.  
1 Se., 1 Fr. Total 2.
- 9 <sup>1</sup>/<sub>2</sub>hf. Asst. Professor JEFFREY and an assistant. — The Anatomy, Development, and Phylogeny of the Siphonogama (Higher Gymnosperms and the Angiosperms). 2 Gr., 2 Se., 1 Ju., 5 Sc. Total 10.
- 11 <sup>2</sup>/<sub>3</sub>hf. Dr. GREENMAN. — Botanical Geography.  
2 Se., 1 Ju., 2 So., 2 Sc. Total 7.

*Primarily for Graduates : —***COURSES OF RESEARCH.**

- 20a. Professor GOODALE and Asst. Professor JEFFREY. — Experimental Vegetable Physiology. Economic Botany, with special reference to Tropical Plants. Structure and Development of Vascular Plants. 1 Gr. Total 1.
- 20b. Professors FARLOW and THAXTER. — Structure and Development of Cryptogams. 2 Gr. Total 2.

**Zoölogy.***Primarily for Undergraduates : —*

- 1 <sup>1</sup>/<sub>2</sub>hf. Asst. Professor G. H. PARKER, Mr. L. J. COLE, and other assistants. — Zoölogy (introductory course).  
4 Gr., 31 Se., 23 Ju., 41 So., 44 Fr., 8 Sp., 32 Sc., 1 Bu. Total 184.

**2<sup>2</sup>hf.** Asst. Professor CASTLE, Mr. A. D. HOWARD, and other assistants.—  
Morphology of Animals.

2 Gr., 2 Se., 7 Ju., 14 So., 1 Fr., 13 Sc., 1 Bu. Total 40.

*For Undergraduates and Graduates:—*

**3.** Dr. H. W. RAND and Mr. I. A. FIELD.—Comparative Anatomy of Vertebrates.  
4 Gr., 4 Se., 3 Ju., 2 So., 5 Sc. Total 18.

**4<sup>1</sup>hf.** Professor MARK and Dr. H. W. RAND.—Microscopical Anatomy.  
4 Gr., 1 Se., 4 Ju., 1 So., 3 Sc. Total 13.

**5<sup>2</sup>hf.** Professor MARK and Dr. H. W. RAND.—Embryology of Vertebrates.  
2 Gr., 1 Se., 4 Ju., 1 So., 3 Sc. Total 11.

**8<sup>2</sup>hf.** Asst. Professor R. T. JACKSON.—Fossil Vertebrates.  
1 Gr., 1 Ju. Total 2.

**9<sup>1</sup>hf.** Asst. Professor R. T. JACKSON.—Fossil Invertebrates.  
3 Gr., 1 Se., 1 Ju., 2 Sc. Total 7.

**10.** Asst. Professor CASTLE.—Experimental Morphology. 9 Gr., 2 Sc. Total 11.

**13<sup>1</sup>hf.** Asst. Professor G. H. PARKER.—Comparative Histology, with special reference to Nervous Tissues. 5 Gr., 1 Se., 1 Ju., 2 Sc. Total 9.

**16<sup>2</sup>hf.** Asst. Professor G. H. PARKER.—The Structure and Functions of the Nervous System and its Relation to Animal Habits. Central Nervous Organs and Terminal Organs of Efferent Nerves. 8 Gr., 3 Sc. Total 11.

*Primarily for Graduates:—*

#### COURSE OF RESEARCH.

**20.** Professor MARK, Asst. Professors R. T. JACKSON, G. H. PARKER, and CASTLE.—Zoölogical Investigations. 11 Gr., 1 Se., 3 Sc. Total 15.

#### Geology.

##### GEOLOGY AND GEOGRAPHY.

*Primarily for Undergraduates:—*

**A<sup>1</sup>hf.** Dr. P. S. SMITH, assisted by Mr. SIMPSON.—Physiography of the Lands.  
3 Gr., 5 Se., 10 Ju., 28 So., 27 Fr., 5 Sp., 21 Sc., 3 Bu. Total 102.

**B<sup>2</sup>hf.** Asst. Professor WARD, assisted by Mr. SIMPSON.—Meteorology (elementary course).  
2 Se., 5 Ju., 18 So., 7 Fr., 6 Sp., 23 Sc., 2 Bu. Total 63.

**4<sup>1</sup>hf.** Professor SHALER, assisted by Dr. P. S. SMITH.—Elementary Geology.  
1 Gr., 2 Ju., 6 So., 4 Fr., 6 Sp., 64 Sc., 2 Bu. Total 85.

**5<sup>2</sup>hf.** Asst. Professor J. B. WOODWORTH, Dr. P. S. SMITH, and assistants.—Elementary Field and Laboratory Geology.  
4 Gr., 4 Se., 5 Ju., 18 So., 18 Fr., 3 Sp., 55 Sc., 1 Bu. Total 108.

**1<sup>1</sup>hf.** Asst. Professor WARD.—Meteorology (second course).  
2 Ju., 3 So., 2 Fr., 3 Sc. Total 10.

*For Undergraduates and Graduates:—*

**6<sup>2</sup>hf.** Professor DAVIS.—Physiography of the United States.  
4 Gr., 4 Ju., 2 So., 2 Fr., 9 Sc. Total 21.

8. Asst. Professor J. B. WOODWORTH. — General Geology.  
1 Gr., 6 Ju., 1 So., 13 Sc. Total 21.
10. Professor H. L. SMYTH, assisted by Dr. BELL. — Mining Geology.  
5 Gr., 2 Ju., 1 So., 17 Sc. Total 25.
- 13 *hf.* Mr. MATTHES. — Topographic Field Methods for Geologists.  
2 Gr., 1 Sc. Total 3.
22. Asst. Professor JAGGAR, assisted by Mr. MANSFIELD. — Advanced Geological Field Work. Areal Geology in the vicinity of Boston.  
4 Gr., 5 Sc. Total 9.
- 12 <sup>1</sup>/<sub>hf.</sub> Asst. Professor J. B. WOODWORTH. — The Carboniferous Period, with special reference to its physical history. 1 So. Total 1.
- 2 <sup>2</sup>/<sub>hf.</sub> Asst. Professor WARD. — Climatology of the United States.  
1 Gr., 1 Se., 2 Ju., 3 So., 1 Sc. Total 8.
- 19 <sup>1</sup>/<sub>hf.</sub> Asst. Professor WARD. — General Climatology.  
3 Gr., 2 Se., 2 Ju., 2 So., 9 Sc. Total 18.
- 14 <sup>1</sup>/<sub>hf.</sub> Professor SHALER, assisted by Mr. STARRATT. — General Palaeontology.  
2 Gr., 10 Se., 6 Ju., 8 So., 5 Fr., 1 Sp., 12 Sc. Total 44.
11. Asst. Professor R. T. JACKSON, assisted by Mr. STARRATT. — Palaeontology.  
2 Gr., 9 Sc. Total 11.
15. Asst. Professor R. T. JACKSON. Occasional Lectures by Professor SHALER. — Historical Geology. 1 Gr. Total 1.

*Primarily for Graduates : —*

COURSES OF RESEARCH.

- 23 <sup>2</sup>/<sub>hf.</sub> Professors SHALER, DAVIS, WOLFF and H. L. SMYTH, Asst. Professors J. B. WOODWORTH and JAGGAR. — Geological Investigation in the Field and Laboratory. 1 So. Total 1.
- †20a. Professor DAVIS. — Physiography (advanced course).  
3 Gr., 1 Sc. Total 4.
- 20d. Professor SHALER and Asst. Professor R. T. JACKSON. — Advanced Palaeontology. 1 Gr. Total 1.

MINERALOGY AND PETROGRAPHY.

*Primarily for Undergraduates : —*

2. Asst. Professor PALACHE, assisted by Mr. RICHARDS. — Mineralogy (including Crystallography, Physical and Chemical Mineralogy, and Descriptive Mineralogy). 2 Gr., 5 Ju., 6 So., 1 Fr., 30 Sc. Total 44.
- 4 <sup>1</sup>/<sub>hf.</sub> Professor WOLFF. — Elementary Petrography. 5 Gr., 2 Sc. Total 7.

*For Undergraduates and Graduates : —*

- 12 <sup>2</sup>/<sub>hf.</sub> Professor WOLFF. — Advanced Petrography. 1 Gr., 2 Sc. Total 3.

MINING AND METALLURGY.

*Primarily for Undergraduates : —*

- 1 <sup>2</sup>/<sub>hf.</sub> Professor H. L. SMYTH and Asst. Professor RAYMER, assisted by Dr. BELL. — Elements of Mining. Prospecting, exploring, development and the principles of exploitation. 1 Gr., 3 Ju., 1 So., 20 Sc. Total 25.

9 <sup>2</sup>/<sub>hf</sub>. Asst. Professor SAUVEUR. — General Metallurgy.

1 Gr., 3 Se., 5 Ju., 1 Fr., 22 Sc. Total 32.

10 <sup>1</sup>/<sub>hf</sub>. Asst. Professor RAYMER, assisted by Mr. McINTOSH. — Fire Assaying.

3 Gr., 22 Sc. Total 25.

*For Undergraduates and Graduates: —*

2 <sup>1</sup>/<sub>hf</sub>. Asst. Professor SAUVEUR, assisted by Mr. BOYNTON. — Metallurgy of iron and steel.

4 Se., 3 Ju., 50 Sc. Total 57.

3 <sup>2</sup>/<sub>hf</sub>. Professor PETERS, assisted by Dr. BELL. — Metallurgy of copper, lead, zinc, and the minor metals, and of the precious metals in connection with copper and lead.

3 Gr., 2 Se., 22 Sc. Total 27.

4. Asst. Professor RAYMER, assisted by Mr. McINTOSH. — Ore-dressing, Concentration, and Milling.

1 Se., 14 Sc. Total 15.

5 <sup>1</sup>/<sub>hf</sub>. Professor H. L. SMYTH. — Metal and coal mining; exploitation.

1 Se., 12 Sc. Total 13.

11 <sup>2</sup>/<sub>hf</sub>. Asst. Professor RAYMER. — Mining Plant.

1 Se., 14 Sc. Total 15.

6 <sup>2</sup>/<sub>hf</sub>. Mr. C. H. WHITE, assisted by Mr. BOYLSTON. — Metallurgical Chemistry.

2 Gr., 18 Sc. Total 20.

7. Mr. C. H. WHITE. — Metallurgical Chemistry (advanced course).

1 Gr., 5 Sc. Total 6.

8 <sup>1</sup>/<sub>hf</sub>. Mr. C. H. WHITE. — Leaching Processes for Gold and Silver Ores.

4 Sc. Total 4.

12. Professor H. L. SMYTH. — Mining. The study of mining operations.

8 Sc. Total 8.

14 <sup>2</sup>/<sub>hf</sub>. Asst. Professor SAUVEUR, assisted by Mr. BOYNTON. — Metallography.

2 Gr. Total 2.

15 <sup>2</sup>/<sub>hf</sub>. Professor PETERS. — Metallurgy of Zinc, Nickel, Tin, Mercury, and the Minor Metals.

1 Gr., 7 Sc. Total 8.

*Primarily for Graduates: —*

#### COURSES OF RESEARCH.

20. Asst. Professor SAUVEUR. — Metallography and the Physics of Metals.

2 Gr., 2 Sc. Total 4.

22. Asst. Professor RAYMER and Mr. C. H. WHITE. — Problems in the Treatment of Ores.

1 Sc. Total 1.

26 <sup>2</sup>/<sub>hf</sub>. Professor PETERS. — Advanced Course in the Metallurgy of Copper, Lead, and the Minor Metals.

2 Gr., 5 Sc. Total 7.

28 <sup>1</sup>/<sub>hf</sub>. Asst. Professor JAGGAR, assisted by Mr. MANSFIELD. — Geological Surveying.

1 Se., 10 Sc. Total 11.

#### Anthropology.

*For Undergraduates and Graduates: —*

1. Dr. FARABEE. — General Anthropology.

3 Gr., 22 Se., 46 Ju., 67 So., 3 Fr., 7 Sp., 8 Sc., 2 Bu., 1 Di. Total 159.

5. Dr. DIXON. — American Archaeology and Ethnology.

4 Gr., 18 Se., 25 Ju., 24 So., 1 Fr., 2 Sp., 1 Sc., 1 Bu. Total 71.

*Primarily for Graduates: —*

‡2<sup>3</sup>hf. Dr. FARABEE. — Somatology. 2 Gr., 1 Se., 1 Sp. Total 4.

4<sup>1</sup>hf. Dr. FARABEE. — Prehistoric Archaeology. European Ethnography.  
3 Gr., 4 Se., 4 Ju., 2 So., 1 Sp., 1 Sc. Total 15.

7<sup>2</sup>hf. Dr. DIXON. — Ethnology of Oceania.  
3 Gr., 3 Se., 6 Ju., 10 So., 1 Sp., 1 Sc. Total 24.

‡8<sup>2</sup>hf. Dr. DIXON. — American Indian Languages. 1 Gr., 1 Ju., 1 So. Total 3.

## COURSE OF SPECIAL STUDY.

‡20a. Professor PUTNAM. — American Archaeology and Ethnology.  
3 Gr. Total 3.

**Anatomy, Physiology, and Hygiene.**

1. Drs. DARLING, PROVANDIE, BACON, and HAPGOOD — Elementary Anatomy and Physiology. Personal Hygiene. Emergencies.  
11 Se., 41 Ju., 66 So., 1 Fr., 7 Sp., 13 Sc. Total 139.


In accordance with a vote of the President and Fellows whereby the Faculty may, under certain conditions, authorize a Doctor of Philosophy or a Doctor of Science to give instruction gratuitously or for such fees as he may himself collect, Dr. F. M. Urban was authorized to give, in the first half-year, a course of lectures on Psychological Acoustics, and Dr. Alexander Petrunkévitch was authorized to give, in the second half-year, a course of lectures on Cytology.

*Some Changes in the Number of Students Enrolled in the Large Lecture Courses.*

Economics 1, though it had lost ninety-one students since 1903–04, still contained four hundred and thirty-eight students, and remained the largest elective course. Government 1 came next, with four hundred and thirty-one students, an increase of fifty-five since 1903–04. Geology 4, no longer counted toward the degree of A.B., fell from four hundred and eighty-nine to eighty-five, of whom sixty-four were members of the Lawrence Scientific School. There was a striking increase of numbers in the more elementary courses in Anthropology. Anthropology 1 rose from forty-nine to one hundred and fifty-nine, and Anthropology 5 from thirty-seven to seventy-one.

*Summer Courses of Instruction, 1905.*

The following courses (seventy-one as compared with fifty-eight in 1904) were given, under the direction of the Faculty, in the summer of 1905. The abbreviations, with the addition of S.S. for

“member of the Summer School,” are the same as those in the preceding list. A hand  points to each course that may be counted toward a degree:—

### Greek.

**A.** Professor A. G. LEACOCK (Phillips-Exeter Academy).—Course for Teachers.  
5 times a week, for 6 weeks. Total 0.


 **B.** Asst. Professor GULICK.—Homer. 5 times a week, for 6 weeks.  
2 S. S. Total 2.

### Classical Archaeology.

 Dr. G. H. CHASE.—History of Ancient Art. 5 times a week, for 6 weeks.  
1 R., 2 Se., 5 Ju., 4 So., 7 Fr., 1 Sp., 2 Sc., 8 S. S. Total 80.

### Latin.

**A.** Asst. Professor RAND.—General Course for Teachers. 5 times a week, for  
6 weeks. 23 S. S. Total 23.

 **B.** Asst. Professor RAND.—The Life and Works of Virgil. 5 times a  
week, for 6 weeks. 1 Gr., 1 So., 1 Sp., 8 S. S. Total 11.


### English.

**A.** Mr. P. G. CARLETON.—English Composition (elementary course). 5 times  
a week, for 6 weeks. 1 So., 24 S. S. Total 25.

**B.** Mr. R. P. UTTER.—English Composition (advanced course). 5 times a  
week, for 6 weeks. 25 S. S. Total 25.

**C.** Mr. W. B. PARKER.—English Composition (second advanced course).  
5 times a week, for 6 weeks. 16 S. S. Total 16.

Associate Professor F. W. REYNOLDS (Univ. of Utah).—College Admission Re-  
quirements in English. 5 times a week, for 6 weeks. 41 S. S. Total 41.

 Dr. C. F. BROWN.—Anglo-Saxon. Anglo-Saxon Reader and Grammar.  
5 times a week, for 6 weeks. 1 Gr., 1 Ju., 1 So., 14 S. S. Total 17.

Dr. H. de W. FULLER.—Shakspeare. 5 times a week, for 6 weeks.  
9 S. S. Total 9.

Mr. COPELAND.—English Literature of the Eighteenth Century. 5 times a  
week, for 6 weeks. 24 S. S. Total 24.

Dr. C. F. BROWN.—English Literature of the Nineteenth Century, from the  
publication of the Lyrical Ballads to the death of Tennyson. 5 times a  
week, for 6 weeks. 16 S. S. Total 16.

### Public Speaking, Platform Reading, Voice Training.

**A.** Mr. WILLARD.—Development of the Voice. 5 times a week, for 6 weeks.  
1 R., 1 Law, 18 S. S. Total 20.

**B.** Asst. Professor WINTER and Mr. R. L. LYMAN.—Platform Reading and Oral  
Discussion. 5 times a week, for 6 weeks. 1 Gr., 8 S. S. Total 9.

**C.** Asst. Professor WINTER and Mr. R. L. LYMAN.—Platform Speaking. 5 times  
a week, for 6 weeks. 1 Gr., 6 S. S. Total 7.



**German.**

- ☞ A. Mr. GROSSMANN. — Composition and Conversation; Methods of Teaching German. 5 times a week, for 6 weeks.

1 Ju., 2 Fr., 2 Sp., 15 S. S. Total 20.

**French.**

- A. Mr. W. B. SNOW. — Intermediate French Course for Teachers. 5 times a week, for 6 weeks.

1 R., 10 S. S. Total 11.

**Phonetics.**

- ☞ Professor GRANDGENT. — Elementary Course. 5 times a week, for 6 weeks.

1 Se., 1 Ju., 2 S. S. Total 4.

**Italian.**

- ☞ Professor GRANDGENT. — Course in Dante. 5 times a week, for 6 weeks.

1 Ju., 1 So. Total 2.

**Spanish.**

- Asst. Professor FORD. — Introductory Course. 5 times a week, for 6 weeks.

1 Gr., 1 Sp., 5 S. S. Total 7.

- ☞ Asst. Professor FORD. — Advanced Course. 5 times a week, for 6 weeks.

1 Gr., 4 S. S. Total 5.

**History and Government.**

- ☞ A. Asst. Professor H. A. SILL (Cornell Univ.). — Roman History. 5 times a week, for 6 weeks.

1 Law, 1 Ju., 1 So., 1 Fr., 16 S. S. Total 20.

- ☞ B. Professor S. B. HARDING (Indiana Univ.). — Mediaeval European History. 5 times a week, for 6 weeks.

1 Law, 2 Sc., 5 S. S. Total 8.

- ☞ C. Professor E. B. GREENE (Univ. of Illinois). — American History. 5 times a week, for 6 weeks.

1 Gr., 2 Ju., 2 So., 11 S. S. Total 16.

- ☞ D. Dr. W. B. MUNRO. — Civil Government. 5 times a week, for 6 weeks.

2 Ju., 2 So., 1 Fr., 8 S. S. Total 13.

**Philosophy.**

- ☞ { Professor ROYCE. — General Introduction to Philosophy. 5 times a week, for 6 weeks.

1 R., 1 Fr., 21 S. S. Total 23.

- ☞ { Professor ROYCE. — General History of Philosophy. 5 times a week, for 6 weeks.

2 R., 1 Fr., 19 S. S. Total 22.

**Psychology.**


- ☞ { A. Dr. YERKES. — Descriptive and Experimental Psychology. The Principles, Methods, and Values of Psychology. 5 times a week, for 6 weeks.

7 S. S. Total 7.


- ☞ { B. Dr. YERKES. — Comparative Psychology: The Growth of Mind in the Individual, and in the Race. 5 times a week, for 6 weeks.

3 S. S. Total 3.


**Education.**

 S1. Asst. Professor A. O. NORTON.—The History of Education since the Twelfth Century. 5 times a week, for 6 weeks.


1 Ju., 1 So., 10 S. S. Total 12.

 S2. Asst. Professor A. O. NORTON. — General Principles of Education, and Courses of Study. 5 times a week, for 6 weeks.

1 Ju., 19 S. S. Total 20.

 S3. Professor HANUS. — Organization and Administration of Schools and School Systems. 5 times a week, for 6 weeks. 1 So., 22 S. S. Total 23.

**Theory of Pure Design.**

 Dr. Ross, assisted by Messrs. H. H. CLARK and E. O. PARKER. — Twelve lectures and daily conferences. Eighteen hours a week of experimental practice, for 6 weeks.

1 So., 1 Sc., 59 S. S. Total 61.

**Drawing and Painting.**

Dr. Ross and Asst. Professor MOWLL. — Lectures, with technical exercises for teachers of drawing and painting, and for professional painters. Lectures, twice a week, for 6 weeks; eighteen hours of experimental practice a week, for 6 weeks.

2 Ju., 1 So., 19 S. S. Total 22.


**Architecture.**

Mr. SWAN. — Architectural Drawing. Theory and Practice. 5 times a week, for 6 weeks.

1 Ju., 2 Sc., 6 S. S. Total 9.


Professor H. L. WARREN. — Theory of Architectural Design. 5 times a week, for 6 weeks.

1 S. S. Total 1.


 Professor H. L. WARREN. — History of European Architecture to about the year 1000. 5 times a week, for 6 weeks.

1 Law, 1 Ju., 5 So., 5 Fr., 1 Sp., 1 Sc., 2 S. S. Total 16.


**Mathematics.**

 SD. Asst. Professor HUNTINGTON. — Advanced Algebra. 5 times a week, for 6 weeks.

1 Ju., 4 So., 2 Fr., 1 Sc., 8 S. S. Total 16.

 SE. Mr. J. K. WHITEMORE. — Solid Geometry. 5 times a week, for 6 weeks.

1 Se., 1 Ju., 2 Fr., 1 Sp., 2 Sc., 5 S. S. Total 12.

 SA. Asst. Professor LOVE. — Plane Trigonometry. 5 times a week, for 6 weeks.

1 Se., 1 Ju., 5 So., 2 Fr., 5 Sc., 6 S. S. Total 20.


 SB. Mr. A. B. FRIZELL. — Plane Analytic Geometry. 5 times a week, for 6 weeks.

1 Sc., 7 S. S. Total 8.

S2. Asst. Professor HUNTINGTON. — Differential and Integral Calculus. 5 times a week, for 6 weeks.

1 Law, 2 Sc., 6 S. S. Total 9.


**Astronomy.**

 Professor WILLSON and Mr. W. C. BRENKE. — Elementary Course in Practical Astronomy. 5 times a week, for 6 weeks. 1 Fr., 2 S. S. Total 3.

**Physics.**

*B.* Asst. Professor W. E. McELFRESH (Williams Coll.) and Mr. L. D. HILL. — Elementary Experimental Physics. 5 times a week, for 6 weeks.

26 S. S. Total 26.

 *C.* Dr. H. W. MORSE. — Advanced Course in Experimental Physics. 5 times a week, for 6 weeks.

13 S. S. Total 13.


**Chemistry.**

Asst. Professor BAXTER and Dr. R. C. WELLS. — Elementary Chemistry. 5 times a week, for 6 weeks.


16 S. S. Total 16.

Asst. Professor BAXTER. — Quantitative Analysis. 5 times a week, for 6 weeks.

2 S. S. Total 2.


 Professor A. S. WHEELER (Univ. of No. Carolina). — Organic Chemistry. 5 times a week, for 6 weeks.

1 So., 7 S. S. Total 8.


 Asst. Professor BAXTER. — Chemical Research. 5 times a week, for 6 weeks.

1 Gr., 1 S. S. Total 2.

**Botany.**


 S1. Dr. R. G. LEAVITT and Mr. J. R. JOHNSTON. — Introductory Course: The Structure, Physiology, and Ecology of Flowering Plants. 5 times a week, for 6 weeks.

1 R., 1 Se., 1 So., 1 Fr., 1 Bu., 10 S. S. Total 15.

 S2. Mr. A. B. PLOWMAN. — Advanced Course: Morphology, Histology and Ecology of Flowering Plants. 5 times a week, for 6 weeks.

1 So., 1 Fr., 7 S. S. Total 9.

**Geology.**


 S1. Professor SHALER and Asst. Professor J. E. WOODMAN (Dalhousie Coll.). — Elementary course. Lectures, laboratory, and field work. 5 times a week, for 6 weeks.

2 R., 1 Ju., 1 Fr., 5 S. S. Total 9.

 S2. Asst. Professor J. B. WOODWORTH. — General Field Geology in the Rocky Mountains of Montana.

1 Gr., 1 So., 2 S. S. Total 4.

**Geography.**

 Dr. P. S. SMITH, assisted by Mr. W. S. TOWER. — Lectures, laboratory, and field work. 5 times a week, for 6 weeks.

1 Sp., 8 S. S. Total 9.

**Physical Education.**

Dr. SARGENT and assistants. — Elementary and advanced courses in theory. 5 weeks.

78 S. S. Total 78.

Dr. SARGENT and assistants. — Elementary and advanced courses in practice. 5 weeks.

142 S. S. Total 142.

The following courses were given in the summer as part of the regular instruction of the Lawrence Scientific School. Some of them were given at Squam Lake, New Hampshire: —

**Engineering.**

- 4a.** Asst. Professor HUGHES. — Plane Surveying. Field work. Daily, 6 weeks.  
1 Law, 3 Gr., 1 Se., 21 Ju., 27 So., 11 Fr., 46 Sc., 9 S. S. Total 119.
- 4d.** Asst. Professor HUGHES. — Railroad Surveying. Daily, 3 weeks.  
1 Law, 3 Gr., 11 Ju., 20 So., 5 Fr., 41 Sc., 5 S. S. Total 86.
- 4c.** Asst. Professor HUGHES. — Geodetic Surveying. Daily, 2 weeks.  
1 Law, 9 Ju., 21 So., 6 Fr., 38 Sc., 2 S. S. Total 77.
- 10a.** Mr. S. E. WHITING, assisted by Mr. E. R. MARKHAM. — Chipping, filing, and fitting. 90 hours.  
1 Gr., 1 Se., 4 Ju., 1 So., 29 Sc., 2 S. S. Total 38.
- 10b.** Mr. S. E. WHITING, assisted by Mr. E. R. MARKHAM. — Blacksmithing. 90 hours.  
1 Gr., 1 Se., 4 Ju., 1 So., 28 Sc., 3 S. S. Total 38.
- 10c.** Mr. S. E. WHITING, assisted by Mr. E. R. MARKHAM. — Pattern Making, etc. 90 hours.  
1 Gr., 1 Se., 4 Ju., 1 So., 27 Sc., 4 S. S. Total 38.
- 10e.** Mr. S. E. WHITING, assisted by Mr. E. R. MARKHAM. — Machine-Shop Practice. 90 hours. 1 Gr., 1 Se., 4 Ju., 1 So., 28 Sc., 1 S. S. Total 36.

It will be observed that the summer courses which may be counted toward a degree have increased in number and variety. The increase results from a vote of the Faculty, December 20, 1904 : —

“That the Committee on Summer Courses of Instruction be requested to consider and to report to the Committee on Instruction what additional courses in the Summer School should be counted for the degrees of Bachelor of Arts and Bachelor of Science.”

In January, 1905, the Faculty voted : —

“That a student who wishes to take a summer course for the purpose of counting it for a Bachelor's degree, shall be required to consult the instructor at the beginning of the course and obtain his consent to count it ;

“That a student be required to attain a grade of C or higher in a summer course in order to count it for a Bachelor's degree.”

Thus the Faculty, while encouraging the use of the Summer School for work toward the Bachelor's degree, hopes to confine such work to serious persons for whom, and for whom only, the Summer School is designed.

In February the Faculty voted an interesting addition to the possibilities of summer courses : —

“Credit will be given to any Harvard students who satisfactorily accomplish the work of any of the summer courses in Geological Field Work announced in the intercollegiate pamphlet, in which at least five weeks are spent under the direction of an instructor, and who pass an examination in Cambridge under the Department of

Geology. The appropriate Dean should in all cases be consulted beforehand in order that a clear understanding may be gained of the conditions under which credit will be given."

This arrangement secures the obvious advantage of the summer for the study of Geology in various distant places, and secures it without danger to the standard of work.

*Instruction provided for 1905-06.*

For the first time the courses in Social Ethics, though remaining in charge of the Division of Philosophy, are grouped by themselves under a separate heading in the announcement of courses. They include a new half-course in *Criminology and Penology* under Dr. Rogers, and a new research course at the School for Social Workers, under Dr. Brackett.

The most noteworthy addition to the instruction of the year is the result of the interchange of professors with Germany. Professor Friedrich Wilhelm Ostwald, of the University of Leipzig, lectures on *Philosophy of Natural Science* (Philosophy 3a<sup>1</sup>), *Fundamental Conceptions of Chemistry* (Chemistry 17<sup>1</sup>), and *Catalysis* (Chemistry 18<sup>1</sup>). He also delivers the Ingersoll Lecture, and has chosen for his subject "Individuality and Immortality."

The courses in Egyptology, which were to be increased in number, are bracketed because of Assistant Professor Lythgoe's absence. The courses in Greek and Latin are as varied and strong as usual. Comparative Philology suffers from the continued illness of Professor von Jagemann. In the Department of English, the return of Professor Wendell revives his half-course in *The Literary History of America*, and opens a new course in *The Literary Origins of English Literature*. Professor Baker offers to graduates a new half-course in *The Technique of the Drama*. Professor A. S. Hill, who has built up the Department and, except when absent for his health, has conducted English 5 from its beginning, retires from all college work, after thirty-three years of service. In German, the subjects of the seminary courses are *Mediaeval German Religious Drama* (Professor Francke), and *Klopstock* (Assistant Professor Walz). Courses in Netherlandish (a half-course in Dutch grammar and the reading of selected texts, and a half-course in the reading of Netherlandish literature) are offered for the first time; the instructor is Dr. H. deW. Fuller. In Comparative Literature the number of courses is still small. In History, Course 27 (*European History in the Sixteenth and Seventeenth Centuries*) is now offered primarily to undergraduates. Professor Dennis, of the University

of Chicago, gives half-courses in *European History in the Napoleonic Period*, and in the *History of British India*. In Government, the return of Professor Stimson opens Government 16, a full course in the *Tendencies of American Legislation, with an historical view of prototypes in English legislation*. Professor Stimson offers also, primarily for graduates, a course in *American Constitutional Law: a study of constitutional principles and limitations throughout the United States*. In Economics, Assistant Professor Gay gives a half-course in *European History and Commerce in the Nineteenth Century*; and Professor Wambaugh of the Law School a half-course (not to be counted toward a degree) entitled *A General View of Insurance*. In History of Religions, Professor G. F. Moore gives a new half-course in *Judaism, from 198 B.C. to modern times*. In Philosophy, Professor Fenn of the Divinity School opens his half-course in *Theism* to candidates for the degrees of A.B. and A.M. In Education, the return of Professor Hanus and the appointment of Mr. A. O. Norton as Assistant Professor have materially strengthened the department. In Fine Arts, Mr. Pope offers a new course in *Landscape Painting: its history and principles, with special reference to the works of Turner*. In Landscape Architecture, Mr. Shurtleff's course in *Details of Construction* appears in the regular announcement for the first time. In Music, Professor Paine, the father of the Department, has retired after a long service: his courses are given by Assistant Professors Spalding and Converse. In Mathematics, Assistant Professor Bouton offers a half-course in *Solid Analytic Geometry*, Professor J. M. Peirce a half-course in *Introduction to Higher Plane Curves*, Mr. Whittemore a half-course in *The Calculus of Variations*, Professor B. O. Peirce a course called *Trigonometric Series, Introduction to Spherical Harmonics*, and a course in *Methods of Mathematical Physics*. In Physics the courses of research continue to be of peculiar interest and value. Forestry gains importance from the expansion of the courses in Silviculture, and the appointment of two Assistant Professors. In Geology, Professor Shaler's elementary course, Geology 4, may again be counted toward the degree of A.B., and is strengthened by much laboratory and field work. In Mineralogy and Petrography, Professor Wolff offers a half-course in *Advanced Petrography*. In Anthropology, Dr. Tozzer offers a new half-course in the *Archaeology and Ethnology of Central America*.

EXAMINATIONS FOR ADMISSION TO HARVARD COLLEGE  
AND THE LAWRENCE SCIENTIFIC SCHOOL.

In my last report I noted that Harvard University had become a member of the College Entrance Examination Board. Last year the advantage of membership to Harvard College was nearly or quite lost because, in two important departments, Harvard College had not then accepted the examinations of the Board. As the Secretary of the Faculty, Mr. John Goddard Hart, has pointed out, the ways of admission to Harvard College have become numerous and complicated. A process which shall result in a standard equally high, but less elaborate, is much to be desired. The Harvard examination papers are prepared with no end of labor, and, contrary to what has been publicly asserted about them, they are designed (beyond all other papers that I have seen) to test not so much what the student has done as what he can do. Teachers who are not Harvard graduates have testified to the value of the Harvard papers in keeping up, through these days of admission by certificate, the strength of admission examinations. "I fit my boys for the Harvard examinations," said a graduate of Yale, the head of an important school, "and I know that then they can get admitted anywhere." Yet these papers have made access to Harvard College unfortunately difficult to many of the persons who most need Harvard College and are most needed by it — the ablest young men in the public high schools which cannot maintain separate instruction to fit boys for Harvard examinations; and when the College Entrance Examination Board achieved something like uniform requirements for most colleges throughout the country, the Harvard scheme, in spite of its varied options, seemed to teachers and pupils more remote than ever. A large number of enterprising boys from places where Harvard influence is small, have worked their way to Harvard College and have not regretted their effort. A larger number must have been dissuaded by teachers, by parents, and by their own doubts of success. For these latter students the complete adoption, as one method of admission to Harvard College, of the examinations offered by the College Entrance Examination Board, will do much, and will do it without danger to Harvard standards. In admission examinations the final question should always be, "Does this young man, from what we know through his teachers and from his total performance at the examinations, show fitness to profit by the teaching of our College?" On such a question the papers of the College Entrance Examination Board can

throw almost or quite as much light as the Harvard papers themselves. More light, indeed, if the school that the boy has attended gives instruction in the requirements of the Board, and does not give instruction in what have been the exclusive requirements of Harvard College.

Examination papers, especially in a college with a highly developed elective system, need constant protection against the specialist who makes them, and who is prone to forget that the persons for whom they are made are not, and are not likely to become, specialists in his department.\* In Harvard College the check applied to the specialist has been not merely the occasional indignation of schoolmasters, but the constantly outspoken criticism of each paper by the authors of the other papers. The Secretary of the Faculty suggests that a further check might well be applied in the separation of the Committee on Admission Examinations from the Committee on Admission, or rather, in the creation of a new Committee on Admission. He suggests that the Committee on Admission Examinations end its work with the reading of the examination books in the several Departments, and that the Committee on Admission then consider, as the Committee on Admission Examinations now tries to do, the total record of each candidate; that the members of the new Committee, — not primarily specialists, — consider every candidate's total achievement in the light of his opportunity, of his record elsewhere, and, if his case seems doubtful, in the light also of the personal impression that he makes when met face to face. In other words, the new Committee would do on a larger scale what the Dean has long done on a smaller one. Without authority to change a single examination mark, it would have, during good behavior, absolute authority to admit or reject a candidate. Moreover, its attitude would be hospitable; it would look toward reasons for admitting the candidate rather than reasons for keeping him out.

The chief fault in schemes of admission requirements is their complication. It used to be said that any boy who could understand the Harvard scheme of admission examinations ought to be admitted; and the remark is equally applicable to the requirements of the College Entrance Examination Board. The difficulty of uniting a variety of schools and colleges (each with its hobby) in a simple scheme for examinations is much like the difficulty of uniting the

\* Since writing this sentence, I have read a recent paper by Mr. Wilson Farrand, Head Master of Newark Academy. "The trouble is," says Mr. Farrand, "that our requirements [for admission to colleges] have been shaped by specialists whose interest has been in the subject rather than in the student."



Faculty of Arts and Sciences in a simple scheme for anything. In this matter, to reach a simplifying end by a complicating means, inappropriate as it is, seems necessary. The College Entrance Examination Board has done and is doing great service to school and college alike; and as it grows stronger, its requirements may and should become simple.

#### CANDIDATES FOR A.B. IN THE GRADUATE SCHOOL.

Near the close of the academic year 1903-04, the Faculty voted to abolish the so-called Consolation A.B., a degree that had sometimes been awarded to graduates of other colleges whose work in the Harvard Graduate School had been respectable but had fallen short of the requirements for the A.M. By the new vote, graduate candidates for the A.B. were required to transfer themselves to Harvard College before Christmas. A vote on the proposition that candidates for the A.M. should be required to register themselves in the Graduate School or in some Graduate Department of the University, was deferred until after the long vacation. On the eighteenth of October, the Faculty voted that —

“Undergraduates who have completed the requirements for the degree of Bachelor of Arts will be admitted to the Graduate School as candidates for the degree of Master of Arts; undergraduates who have completed the requirements for the degree of Bachelor of Arts, with the exception of a single course, may, in special cases, be admitted to the Graduate School as candidates for the degree of Master of Arts. The special cases are those of men who, in the judgment of the Dean of Harvard College and of the Administrative Board of the Graduate School, are likely to be able to secure the degree of Master of Arts in one year. The entire work of such men shall be carried on under the supervision of the Administrative Board.”

Thus there are still candidates for the degree of A.B. in the Graduate School; but they are persons nearly all of whose work in their year of candidacy for the A.B. is ultimately to be counted for the A.M.

#### DIVERS PLANS FOR THE REQUIREMENTS OF THE DEGREE OF A.B.

At the end of the academic year 1903-04 there were before the Faculty so many schemes for the revision of the terms on which the degree of A.B. is awarded, that the only hope of clearing the docket was in the appointment of a Committee. That Committee, known as the Committee on Divers Plans for the Requirements of the

Degree of A.B., reported to the Faculty, in November, a three-year plan and a four-year plan: these plans were alike in reverting to the principle which the Faculty has in late years abandoned — the principle of not counting additional courses passed in any one year toward the work of a later year. On December 6 the Faculty voted:

“That the Faculty accepts the principle proposed by the Committee that, except in case of illness or other exceptional circumstances, a course passed in one year in excess of the number of courses required that year shall not be carried over and placed to the student's credit in a subsequent year; but deficiencies in one year may be made up in a subsequent year, provided that the student does not work at the rate of more than six courses.”

This vote of the Faculty, however, was left swinging, since both plans of the Committee were finally rejected. Both plans were laid on the table in November, the three-year plan not to be taken off, the four-year plan to be taken off in May and rejected by a vote of fifty-five to seventeen.

#### EFFORT TO RAISE THE STANDARD OF STUDENTS' WORK.

One sentence in the preamble to the Report of the Committee on Divers Plans for the Requirements of the Degree of A.B. was referred to the Committee on Instruction; and on March 7, 1905, the Committee on Instruction reported as follows: —

On November 29, 1904, the Faculty of Arts and Sciences voted to refer to the Committee on Instruction, for consideration and report, this sentence in the preamble to the Report of the Committee on Divers Plans for the Requirements of the Degree of A.B.: —

“It will recommend further that the Committee on Instruction consider the practicability of so administering the courses of instruction as to secure from the students a satisfactory amount of work, and that the Committee on Instruction reclassify such courses as are found to require more work or less work than the normal amount.”

The Committee on Instruction immediately sent inquiries to all the instructors of such courses in the first two groups as may be counted toward the degree of A.B., and it has received replies in nearly all important cases. These replies indicate: —

(1) That it is the general intention of instructors to require a reasonable amount of work (roughly nine hours a week, including the lectures) in every course.

(2) That instructors in courses which have been or are regarded as soft are in most cases making the courses harder.

(3) That when the courses do not require a reasonable amount of work, the difficulty is nearly always inadequate provision made by

the Corporation for the proper handling of the courses. This inadequate provision may be in the number and the quality of Assistants, or in Laboratory facilities, or in any part of the proper equipment of a large course.

(4) That there is a strong feeling among the instructors in general against the official recognition in a large lecture course of two kinds of students, — those who take the course thoroughly, with frequent tests, and those who take it superficially, with nothing but the lectures and the mid-year and final examinations. The proposed counting of a course as a whole course for the thorough and as a half-course for the superficial is not, in the minds of most instructors, a sufficient remedy for the evil of deliberately uniting the two kinds of students in one lecture-room and one course.

(5) That the courses now demanding more than the normal amount of time are in healthy condition, and should not, except possibly in a few cases, be counted for more than their present value.

In view of these considerations, the Committee has voted : —

(A) That in the opinion of the Committee it is undesirable to adopt the general principle of dividing the students in large courses into two classes, — those who take the courses for full credit, and those who take them for half credit. The Committee believes, however, that such a division may rightly be made in special cases at the request of the Departments concerned.

(B) That though the equalizing of work in the various College courses is not possible or desirable, and though no theoretical number of hours required can make the work equal for men of different capacities and different ambitions, it is yet possible and desirable for every instructor to keep in mind as a rough estimate of the normal amount of work in a College course, including lectures and recitations, nine hours a week.

(C) That the satisfactory remedy for the soft lecture courses is not, except in a few cases, the rating of courses differently for different students, but the provision of sufficient tests, — a provision which can be brought about by nothing but a sufficient number of first-rate assistants.

On the acceptance of this report, the Faculty voted : —

“To express to the President and Fellows their opinion that without a larger expenditure upon assistants and other facilities for instruction, a standard worthy of the College cannot be maintained in the large lecture courses.”

## WORK OF THE COMMITTEE ON INSTRUCTION.

The Committee on Instruction had a year of exceptional activity, meeting every week for a long period. Besides discussing the preamble to the report of the Committee on Divers Plans for the Requirements of the Degree of A.B., it considered an interesting request for the establishment of Saturday courses for teachers, inquired into an alleged evil in the election by Seniors and Juniors of courses regularly open to Freshmen, and did its customary work for the announcement of courses of instruction. As to courses for teachers, it was obliged to report: "The Committee thinks it inexpedient, in the present financial condition of the University, to offer Saturday courses for teachers." As to Seniors and Juniors in Freshman courses, it reported that, after a careful investigation of the statistics showing the number of Seniors and Juniors registered in courses regularly open to Freshmen, it found in the practice no evil that needs legislation.

## ACTION ON THE NEW SCHEME OF REQUIREMENTS FOR THE DEGREE WITH DISTINCTION.

In March, the Dean of Harvard College, on behalf of a special Committee appointed to consider the recommendations of Divisions and Departments concerning degrees with distinction, presented a report satisfactory to the Faculty, and the new scheme went into operation at once. The effect cannot yet be prophesied.

## QUESTIONS FOR THE FACULTY OF ARTS AND SCIENCES.

The Faculty has now before it at least two propositions for a revision of the requirements for the degree of A.B.; and it is seldom free from such propositions. It must also consider early the far-reaching question of the relation of the Lawrence Scientific School and of Harvard College to the new school of Applied Science which will be established with the extraordinary gift of the late Gordon McKay, and the less alluring but equally vital problems of Admission Examinations. In every one of these questions, it should strive, I earnestly believe, for a large simplicity, and should entrust details to administrative committees responsible to itself for nothing but the reasonable exercise of full power. The radical fault in its schemes, whether for admission or for graduation or for anything else, is, as I have intimated, a detailed complication — the result of

unwillingness to accept anything without minute information regarding every nook and corner of it. Such information can never be thorough, after all. No scheme that concerns the lives of varied human beings can fail to reveal, after a short trial, new nooks and new corners — not merely unexplored but unimagined; and thus the Faculty finds itself hoisted by some of its own petards which, from their innocent appearance, have not been recognized as petards at all. It is therefore constantly revising its plans, but not so much with a view to simplicity as with a view to unattainable thoroughness. What it needs is simple laws supported by thorough administration.

In the art of touching nothing that it does not complicate, the Faculty of Arts and Sciences is by no means alone. Those persons in charge of athletics have attempted a similar thoroughness in defining professionalism — with even sadder results. In the relation of one University to another, whether for athletic purposes or for academic, a crying evil is the attempt to establish many elaborate rules that shall take care of themselves, rather than a few simple rules that assume the service of judicious and honorable men to take care of them. Harvard University, always a leader in many things, may well show its leadership in a magnanimous simplicity of written law.

L. B. R. BRIGGS, *Dean*.

## THE COLLEGE.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — I have the honor to submit to you a report on the condition of Harvard College for the academic year 1904–05.

The total number of students at the time when the lists were compiled for the Catalogue of 1904–05 was two thousand and nine, divided as follows : —

Seniors . . . . .	265
Juniors . . . . .	442
Sophomores . . . . .	610
Freshmen . . . . .	545
Total number of Undergraduates . . . . .	1862
Special Students . . . . .	147
Total . . . . .	2009

Compared with the registration at the corresponding time in the preceding year, 1903–04, these figures show a net loss of sixty-four, divided as follows : —

	Gain.	Loss.
Seniors . . . . .	..	60
Juniors . . . . .	17	..
Sophomores . . . . .	..	20
Freshmen . . . . .	..	11
Special Students . . . . .	10	..
	<u>27</u>	<u>91</u>
		27
Net loss . . . . .		64

Most noteworthy in a study of the tables of losses and gains during the last five years is the almost steady decrease in the number of students registered in the Senior Class : —

	1900–01.	1901–02.	1902–03.	1903–04.	1904–05.
Number of students in College	1992	1983	2109	2073	2009
Registered as Seniors . . . . .	388	346	381	325	265

During the year the following students died : —

- Morton Wendell Farrar, '05, . . . Died March 16, 1905.
- James Greenleaf Fuller, '07, . . . Died March 30, 1905.
- Walter LeGrand Gifford, '07, . . . Died September 23, 1905.
- Robert Huntington Jacobs, '08, . . Died September 7, 1905.

On the Commencement Programme in 1905 the names of four hundred and sixteen students appeared, recommended by the Faculty of Arts and Sciences, — three hundred and ninety-eight in June, eighteen in March, — for the degree of Bachelor of Arts; of these two hundred and eleven were registered as Seniors. The registration of the remainder is indicated in the next table :—

On leave of absence all the year . . . . .	35
On leave of absence first half-year . . . . .	1
On leave of absence second half-year . . . . .	21
Graduate Students . . . . .	11
Registered in Law School . . . . .	34
Registered in Medical School . . . . .	7
Registered in Scientific School . . . . .	5
Special Students . . . . .	1
Registered in Sophomore Class . . . . .	8
Registered in Junior Class . . . . .	17
	<hr/> 140
To be designated “as of 1906” in the <i>Quinquennial</i> . . .	65
	<hr/> 205

The next tables show the losses and gains in the three younger classes between November, 1904, and November, 1905 : —

	November, 1904.	Loss.	Gain.	November, 1905.
Class of 1906 . .	(Juniors) 448	245	53	(Seniors) 251
Class of 1907 . .	(Sophomores) 610	238	49	(Juniors) 421
Class of 1908 . .	(Freshmen) 545	126	180	(Sophomores) 599
		<hr/> 609	<hr/> 282	

Net loss in the three classes between Nov., 1904, and Nov., 1905, . . . 327  
\*(33 more than in 1904)

The discrepancy between the number of students in the classes as given in the last table and the number given in the Catalogues of the corresponding years is caused by students entering or withdrawing from classes after the Catalogue goes to press.

\* In the report of 1903–04 by a typographical error the net loss, which should have been given as 294, was printed 225. To this is due the apparent discrepancy between the tables of 1904 and 1903.

	Class of 1906.	Class of 1907.	Class of 1908.	Total for three classes.
<b>LOSSES.</b>				
Left College before the end of the year . .	17	29	43	89
Left College at the end of the year . . . .	207	40	22	269
Were "dropped" and left College . . . .	5	31	14	50
Entered a lower class . . . . .	10	103	36	149
Entered a higher class . . . . .	6	35	11	52
<b>Total loss . . . . .</b>	<b>245</b>	<b>238</b>	<b>126</b>	<b>609</b>
<b>GAINS.</b>				
From higher classes . . . . .	6	10	102	118
From lower classes . . . . .	35	11	..	46
Newly admitted . . . . .	12	28	78	118
<b>Total gain . . . . .</b>	<b>53</b>	<b>49</b>	<b>180</b>	<b>282</b>
<b>Net loss . . . . .</b>	<b>192</b>	<b>189</b>	<b>..</b>	<b>327</b>
<b>Net gain . . . . .</b>	<b>..</b>	<b>..</b>	<b>54</b>	<b>..</b>

The next table shows the losses and gains in the number of Special Students since December, 1904 : —

In attendance, December, 1904 . . . . .	147
Left College before the end of the year . . . . .	18
Left College at the end of the year . . . . .	57
Entered a College class . . . . .	38
<b>Total loss . . . . .</b>	<b>113</b>
Reentered College as Special Students in 1905 . . . .	34
Newly admitted . . . . .	117
<b>Total . . . . .</b>	<b>151</b>
<b>Net gain . . . . .</b>	<b>4</b>

The Freshman Class in 1905-06 numbers fifty-seven less than that in 1904-05 : —

Admitted by examination in 1905 . . . . .	416
Admitted by examination before 1905 . . . . .	23
From a higher class . . . . .	41
“ the Special Students . . . . .	4
“ the Lawrence Scientific School . . . . .	4
<b>Total . . . . .</b>	<b>488</b>



A comparison of this table with that of the preceding year shows in all categories diminutions, only one of which, the third, that of students dropped from the Freshman Class of the preceding year, may be viewed with satisfaction.

Seventy candidates, who took in June some of their final examinations for admission, intending to postpone the remainder until September, did not complete this examination in September: three of these were transferred to the Lawrence Scientific School as postponing candidates, and two took examinations over in September for the Lawrence Scientific School; of the remaining sixty-five, ten passed in so few subjects that they were notified that they must take all of their examinations over again in September (eight of these ten tried over their examinations); thirty-five of the sixty-five were not allowed to try the examinations again, and three were allowed to become preliminary candidates in September. Thirty-four, rejected in June, took their examinations again in September; seven, rejected in June, were allowed to become postponers; one, rejected in June, was allowed to become a preliminary candidate in September; and five, who registered as postponing candidates but who passed in a sufficient number of points to entitle them to admission, were allowed to change their registration, and received admission certificates. Eight, who took examinations for Harvard College, were later admitted to the Lawrence Scientific School, and nine, who had been admitted to the Scientific School, were afterwards admitted to Harvard College. Fourteen, who presented themselves as final candidates, were allowed, after the examinations, to count a part of the examinations they had passed for a preliminary certificate. One, rejected in June, was changed to a postponing candidate for the Lawrence Scientific School; and eleven boys, exceptional cases, were allowed to add to a preliminary certificate.

Five hundred and ninety-three candidates, fifty-six less than in 1904, took Final Examinations. Of the five hundred and ninety-three, four hundred and fifty-four had preliminary certificates (among these were eleven who, for special reasons, had divided their examinations among three years, ten completing their examination in June, and one in September); fifty-one divided the examinations between June and September; twenty-seven took all of their examinations in June; twenty-five took all in September; thirty-six who had a preliminary certificate divided their Final Examinations between June and September.

	Admitted.	Admitted "Clear."	Rejected.
June . . . . .	387	198	56
September . . . . .	121	26	29
Total . . . . .	508	224	85

Of the five hundred and ninety-three candidates, four hundred and forty-seven offered ancient history rather than modern; sixty, modern rather than ancient; fifty-six, both ancient and modern; fifteen, ancient and advanced European; seven, modern and advanced European; one, ancient and the history of a period; and seven, neither.

The next table shows, in order of the number of choices, the offerings of advanced subjects: Latin as usual holds the first place.

1903.	1904.	1905.
Latin.	Latin.	Latin.
French.	French.	French.
Greek.	Greek.	Greek.
German.	German.	German.
Log. and Trig.	Solid Geometry.	Solid Geometry.
Solid Geometry.	Log. and Trig.	Log. and Trig.
History.	History.	History.
Algebra.	Algebra.	Algebra.
Astronomy.	Physics.	{ Physics.
		{ Meteorology.
Physics.	Meteorology.	{ Astronomy.
Meteorology.	Astronomy.	{ Counterpoint.

The next table gives the details on which the foregoing table is based: —

Number of candidates offering	1903.		1904.		1905.	
		Per cent.		Per cent.		Per cent.
Advanced Greek . . . . .	279	46.12	281	48.30	258	43.51
Advanced Latin . . . . .	504	83.31	511	78.74	480	80.94
Advanced German . . . . .	182	30.08	204	31.43	203	34.28
Advanced French . . . . .	344	56.86	385	59.32	372	62.73
Advanced History . . . . .	78	12.89	90	13.87	77	12.98
Logarithms and Trigonometry	100	16.53	121	18.64	113	19.06
Solid Geometry . . . . .	85	14.05	122	18.80	114	19.22
Advanced Algebra . . . . .	51	8.50	64	9.86	49	8.26
Advanced Physics . . . . .	4	.66	6	.92	4	.67
Astronomy . . . . .	6	.99	4	.62	2	.34
Meteorology . . . . .	2	.33	5	.77	4	.67
Counterpoint . . . . .	. . . .		. . . .		2	.34

The next two tables show, for each study, the percentage of failure (*A*) in the complete records of the candidates, including the records of their successful Preliminary Examinations, and (*B*) in their records at Final Examinations only :—

( <i>A</i> )	1900.	1901.	1902.	1903.	1904.	1906.
ELEMENTARY STUDIES.						
English . . . . .	10.2	9.42	6.25	8.43	3.86	7.24
Greek . . . . .	4.	3.18	3.16	3.55	3.61	2.56
Latin . . . . .	6.	3.91	5.91	6.77	7.45	12.59
German . . . . .	17.85	16.67	17.82	11.19	16.61	16.88
French . . . . .	7.6	7.05	7.71	7.09	9.69	10.52
History (Ancient) . . . . .	8.2	10.46	12.14	10.71	7.65	5.56
History (Modern) . . . . .	7.44	16.54	16.67	6.49	8.75	6.49
Algebra . . . . .	14.	14.97	10.44	10.70	11.20	12.69
Geometry . . . . .	24.	7.06	13.83	11.11	9.33	34.69*
Plane Geometry . . . . .	26.60	16.88	21.86	17.03	17.05	16.39
Physics . . . . .	18.44	17.07	17.97	14.38	14.88	13.81
Chemistry . . . . .	12.	10.82	6.90	11.11	13.83	5.59
Physiography . . . . .	11.	33.33	64.29	57.89	28.57	18.75
Anatomy . . . . .	20.	50.	27.27	50.	30.77	100.
Harmony . . . . .	. .	. .	. .	. .	. .	21.43
ADVANCED STUDIES.						
Greek . . . . .	13.16	12.96	11.04	9.32	9.25	8.14
Latin . . . . .	23.45	21.74	27.36	20.42	27.01	30.21
German . . . . .	30.	31.21	31.85	28.57	37.75	33.99
French . . . . .	26.47	27.57	22.19	25.29	21.04	21.51
History . . . . .	41.66	45.1	35.37	42.31	37.78	49.35
Logarithms and Trigonometry . .	23.86	28.85	25.77	23.	33.06	37.17
Solid Geometry . . . . .	22.58	27.78	41.56	44.71	37.70	50.88
Algebra . . . . .	41.17	48.	56.34	19.61	50.	44.90
Physics . . . . .	37.5	71.43	100.	75.	66.67	25.
Astronomy . . . . .	100.	.00	66.67	66.67	50.	100.
Meteorology . . . . .	50.	100.	.00	.00	20.	.00
Counterpoint . . . . .	. .	. .	. .	. .	. .	.00

As usual the greatest fluctuation in percentages is in the subjects offered by fewest candidates.

Six hundred and twenty-nine candidates (thirty less than in 1904) took Preliminary Examinations; of these, four hundred and sixty-nine (forty-three less than in 1904) received certificates (Table C).

There were also two candidates who combined Board Examinations with those of Harvard College: one, eight points (4 Board); one, fourteen points (6 Board).

(B) ELEMENTARY STUDIES.			ADVANCED STUDIES.		
	1904.	1905.		1904.	1905.
English . . . . .	5.60	10.91	Greek . . . . .	9.56	8.70
Greek . . . . .	13.22	11.49	Latin . . . . .	28.75	31.73
Latin . . . . .	21.62	30.17	German . . . . .	44.51	40.59
German . . . . .	29.78	30.06	French . . . . .	26.91	27.78
French . . . . .	22.98	26.83	History . . . . .	38.64	53.52
History (Ancient) . .	14.24	12.28	Log. and Trig. . . .	34.78	38.89
History (Modern) . .	17.07	15.15	Solid Geometry . . .	39.32	51.79
Algebra . . . . .	28.13	32.03	Algebra . . . . .	53.33	53.66
Geometry . . . . .	16.28	*45.95	Physics . . . . .	66.67	25.
Plane Geometry . . .	25.26	24.65	Astronomy . . . . .	50.	100.
Physics . . . . .	17.94	16.85	Meteorology . . . . .	20.	.00
Chemistry . . . . .	17.22	7.19	Counterpoint . . . . .	.00	.00
Physiography . . . .	30.77	20.			
Anatomy, etc. . . . .	36.36	100.			
Harmony . . . . .	.00	23.08			

(C)	Eight points . . . . .	82
	Nine " . . . . .	4
	Ten " . . . . .	70
	Eleven . . . . .	4
	Twelve " . . . . .	90
	Thirteen points . . . . .	3
	Fourteen " . . . . .	99
	Fifteen " . . . . .	6
	Sixteen " . . . . .	46
	Eighteen " . . . . .	20
	Nineteen " . . . . .	7
	Twenty " . . . . .	18
	Twenty-one points . . . . .	2
	Twenty-two " . . . . .	5
	Twenty-three " . . . . .	2
	Twenty-four " . . . . .	2
	Less than eight points . . . . .	9
	Received certificates . . . . .	469
	Failed . . . . .	160
	Total number of candidates . . . . .	629

The next table gives the percentages of failure in Preliminary Studies : —

\* Eleven who failed in Geometry (three points) were allowed credit for Plane Geometry (two points).

ELEMENTARY.			ADVANCED.		
	1904.	1905.		1904.	1905.
English . . . . .	27.34	61.03	Greek . . . . .	36.36	33.33
Greek . . . . .	9.19	8.98	Latin . . . . .	54.72	50.
Latin . . . . .	36.78	39.20	German . . . . .	20.41	30.
German . . . . .	30.05	27.23	French . . . . .	35.20	36.54
French . . . . .	25.55	28.77	History . . . . .	50.	100.
History (Ancient) . .	22.76	22.31	Log. and Trig. . . .	33.33	52.94
History (Modern) . .	35.29	26.09	Solid Geometry . . .	38.46	66.67
Algebra . . . . .	24.19	25.15	Algebra . . . . .	40.	27.78
Geometry . . . . .	34.62	59.26††	Physics . . . . .	*100.	Not off'd
Plane Geometry . . .	27.09	34.94	Astronomy . . . . .	*100.	Not off'd
Physics . . . . .	17.21	22.30	Meteorology . . . . .		Not off'd
Chemistry . . . . .	9.43	4.65			
Physiography . . . .	40.	.00†			
Anatomy, etc. . . . .	.00†	.00**			
Harmony . . . . .	.00*	.00†			

In printing statistics of "Credits" won at the examinations for admission to College, I give (A) the "Credits" won this year at Final Examinations; (B) those won this year and some earlier year by the final candidates of this year; and (C) those won this year at Preliminary Examinations : —

(A) ELEMENTARY STUDIES.			ADVANCED STUDIES.		
	June.	Sept.		June.	Sept.
English . . . . .	15	1	Greek . . . . .	18	2
Greek . . . . .	2	0	Latin . . . . .	38	2
Latin . . . . .	16	3	German . . . . .	18	2
German . . . . .	24	2	French . . . . .	12	1
French . . . . .	4	1	History . . . . .	0	1
History (Ancient) . .	13	2	Log. and Trig. . . .	14	3
History (Modern) . .	3	0	Solid Geometry . . .	6	1
Algebra . . . . .	31	8	Algebra . . . . .	2	1
Geometry . . . . .	4	1	Physics . . . . .	0	0
Plane Geometry . . .	18	0	Astronomy . . . . .	0	0
Physics . . . . .	89	10	Meteorology . . . . .	1	0
Chemistry . . . . .	29	1	Counterpoint . . . .	1	0
Physiography . . . .	2	0			
Anatomy, etc. . . . .	0	0			
Harmony . . . . .	1	0			
	251	29		110	18

† Two candidates only.      \* One candidate only.      \*\* Five candidates only.  
†† Four who failed in Geometry (three points) were allowed credit in Plane Geometry (two points).

(B) ELEMENTARY.		ADVANCED.	
English . . . . .	18	Greek . . . . .	20
Greek . . . . .	39	Latin . . . . .	41
Latin . . . . .	56	German . . . . .	30
German . . . . .	58	French . . . . .	14
French . . . . .	18	History . . . . .	1
History (Ancient) . . . . .	43	Log. and Trig. . . . .	17
History (Modern) . . . . .	4	Solid Geometry . . . . .	7
Algebra . . . . .	141	Algebra . . . . .	8
Geometry . . . . .	6	Physics . . . . .	0
Plane Geometry . . . . .	38	Astronomy . . . . .	0
Physics . . . . .	133	Meteorology . . . . .	1
Chemistry . . . . .	38	Counterpoint . . . . .	1
Physiography . . . . .	2		
Anatomy, etc. . . . .	0		
Harmony . . . . .	1		
	590		140

(C) ELEMENTARY.		ADVANCED.	
English . . . . .	7	Greek . . . . .	1
Greek . . . . .	39	Latin . . . . .	3
Latin . . . . .	48	German . . . . .	12
German . . . . .	31	French . . . . .	7
French . . . . .	18	History . . . . .	0
History (Ancient) . . . . .	27	Log. and Trig. . . . .	2
History (Modern) . . . . .	3	Solid Geometry . . . . .	1
Algebra . . . . .	117	Algebra . . . . .	7
Geometry . . . . .	1	Physics . . . . .	0
Plane Geometry . . . . .	18	Astronomy . . . . .	0
Physics . . . . .	21	Meteorology . . . . .	0
Chemistry . . . . .	7		
Physiography . . . . .	0		
Anatomy, etc. . . . .	0		
Harmony . . . . .	1		
	338		33

At the June, 1905, meeting, the Committee on Admission Examinations made a tentative step in a new direction. Until then its policy had been to determine a candidate's admission or rejection at the time he presented himself for final examinations. Under this policy practically every candidate, both schoolmasters and candi-

dates had come to understand, who succeeded in passing examinations amounting to twenty points was admitted; he who passed in less was likely to be rejected unless there were extraordinary circumstances in his case. The practical results of this policy were, in the one case, the admission of a student whose heavy conditions impeded his College work (few boys once admitted are willing to give the summer to hard work for the removal of conditions); in the other, the imposition of too heavy a burden of summer work upon the candidate who, trying again for admission in September, was required to abandon the entire results of his June examinations. In view of these two sorts of cases the Committee made a very small experiment: eleven candidates, "line cases," were told that they would be admitted if they passed in a sufficient number of additional points in September. By this was meant that they should try by September examinations, either in subjects in which they had failed or in new subjects (in almost every case the former), to secure the twenty-six points necessary for admission without conditions. Ten of the eleven presented themselves for examination in September, improved their records, and were admitted,—the better prepared successfully to carry on their College work.

The following table shows the number and the results of examinations taken over by the ten students referred to in the preceding paragraph and by postponing candidates who took advantage of the new rule, first operative in 1905, whereby, with the permission of the Dean, a postponing candidate may under certain circumstances take over in September examinations in which he failed in June:—

ELEMENTARY.

	Failed.	Passed.	Total.
English . . . . .	2	5	7
Latin . . . . .	4	12	16
German . . . . .	2	5	7
French . . . . .	2	10	12
Ancient History . . . . .	1	6	7
Modern History . . . . .	0	2	2
Algebra . . . . .	5	6	11
Plane Geometry . . . . .	4	*11	15
Geometry . . . . .	1	0	1
Physics . . . . .	4	5	9
Chemistry . . . . .	1	1	2

\* One took Geometry in June.

ADVANCED.

Greek . . . . .	0	2	2
Latin . . . . .	4	14	18
German . . . . .	3	2	5
French . . . . .	6	8	14
History . . . . .	3	1	4
Logarithms . . . . .	1	0	1
Algebra . . . . .	2	2	4
Solid Geometry . . . . .	1	1	2
	46	93	139

The number of postponing candidates who availed themselves of the new provision was not large, probably because comparatively few had noticed the change imbedded in the great amount of detail that complicates the rules governing admission ; but if from an experiment with so few of its members a class can enter College with ninety-three less conditions than under the old rules, the question whether the time has not come for a thorough revision of our rules, whereby they shall be made simpler and more flexible, is certainly pertinent. The steadily increasing number of requests from teachers for exceptions to the rules is but another argument to the same point.

In June, 1904, Harvard became a member of the College Entrance Examination Board, and the Committee on Admission Examinations was “authorized to use its discretion in accepting the examinations of the College Entrance Examination Board in place of a part of the Harvard examinations for admission.” It was, however, understood that the Harvard examiners should read and grade anew all of the books submitted.

After the Departments had been consulted by the Committee, a circular was issued to the schools announcing that Board examinations might be substituted for Harvard examinations in the following subjects : Elementary — English, Greek, German, French, Ancient History, Physics ; Advanced — French and History. This list, maimed as it was, nevertheless served a few boys, and the addition of Elementary Latin and Mathematics for 1906 will greatly increase its efficiency ; but not until Harvard accepts freely the Board examinations can the College and the Scientific School profit from them as they ought. The Board is a conservative body, the most effective union between the colleges and the secondary schools that has yet been devised. Its requirements are based upon the recommendations



CLASS.	NAME.	SCHOLARSHIP.	HOME.	SCHOOL.
'08	Samuel Lionel Abrahams . . . . .	Bowditch . . . . .	Cambridge . . . . .	Roxbury Latin School.
'06	Herbert Percy Arnold . . . . .	Price Greenleaf . . . . .	Quincy . . . . .	Quincy High School.
'07	Irving Widmer Bailey . . . . .	Price Greenleaf . . . . .	Cambridge . . . . .	Cambridge Latin School.
'07	Alfred Longfellow Benshimol . . . . .	Price Greenleaf . . . . .	Dorchester . . . . .	Boston Latin School.
'08	Francis Augustus Bonner . . . . .	Bowditch . . . . .	Chicago, Ill. . . . .	Lake View High School, Chicago, Ill.
'06	Philip Sheridan Campbell . . . . .	John Harvard . . . . .	Brooklyn, N.Y. . . . .	Central High School, St. Paul, Minn.
'06	Edgar Thomas Clements . . . . .	Hollis . . . . .	Nutley, N.J. . . . .	Newark Academy, Newark, N.J.
'07	Harvard Hersey Crabtree . . . . .	Ruluff Sterling Choate . . . . .	Hancock, Me. . . . .	Higgins Classical Institute, Charleston,
'08	David Campbell Eipper . . . . .	Bowditch . . . . .	Kingston, Pa. . . . .	Wyoming Seminary, Kingston, Pa. [Me.
'07	Griffith Conrad Evans . . . . .	Levina Hoar . . . . .	Dorchester . . . . .	Boston English High School.
'08	Isaac Blair Evans . . . . .	Bowditch . . . . .	Ogden, Utah . . . . .	High School, Ogden, Utah.
'07	Paul Southard Fiske . . . . .	Price Greenleaf . . . . .	West Medford . . . . .	Medford High School.
'07	Rufus Coffin Folsom . . . . .	John Harvard . . . . .	Dorchester . . . . .	Boston Latin School.
'07	Seth Thomas Gano . . . . .	Price Greenleaf . . . . .	Milford, N.Y. . . . .	State Normal School, Oneonta, N.Y.
'07	Isaac Gerber . . . . .	Bowditch . . . . .	Boston . . . . .	Boston English High School.
'06	Monroe C Gutman . . . . .	John Harvard . . . . .	New York, N.Y. . . . .	Sachs Collegiate School, New York,
'07	Hermann Hagedorn, Jr. . . . .	John Harvard . . . . .	New York, N.Y. . . . .	The Hill School, Pottstown, Pa. [N.Y.
'06	Homer Howells Harbour . . . . .	Class of 1856 . . . . .	Dorchester . . . . .	Boston Latin School.
'07	Clarence Henry Haring . . . . .	Price Greenleaf . . . . .	Philadelphia, Pa. . . . .	Central High School, Philadelphia, Pa.
'07	Gorham Waller Harris . . . . .	John Harvard . . . . .	Somerville . . . . .	Somerville Latin High School.
'07	Harvey Cornelius Hayes . . . . .	Price Greenleaf . . . . .	Oneonta, N.Y. . . . .	State Normal School, Oneonta, N.Y.
'06	Arthur Norman Holcombe . . . . .	Class of 1856 . . . . .	Winchester . . . . .	Winchester High School.
'07	David Heath Howie . . . . .	Price Greenleaf . . . . .	Hopedale . . . . .	Worcester Academy.

'08	Henry Hurwitz . . . . .	Farrar . . . . .	Worcester . . . . .	Gloucester High School.
'08	Samuel Hymen Hurwitz . . . . .	Bowditch . . . . .	Chicago, Ill. . . . .	West Division High School, Chicago,
'08	Dunham Jackson . . . . .	Jacob Wendell . . . . .	Bridgewater . . . . .	Bridgewater High School. [Ill.
'07	Francis Walker Johnson . . . . .	Bowditch . . . . .	Lynn . . . . .	Lynn Classical School.
'06	Theodore Francis Jones . . . . .	Charles Wyman . . . . .	Allston . . . . .	Boston Latin School.
'08	Jacob Joseph Kaplan . . . . .	Bowditch . . . . .	Boston . . . . .	Boston English High School.
'07	Frederick Henry Lahee . . . . .	Bowditch . . . . .	Cambridge . . . . .	Brookline High School.
'07	Harry Wheatland Litchfield . . . . .	Saltonstall . . . . .	North Pembroke . . . . .	Rockland High School.
'07	Samuel Hart Newhall . . . . .	William Samuel Eliot . . . . .	West Lynn . . . . .	Lynn Classical School.
'07	Charles Eliot Nichols . . . . .	John Harvard . . . . .	Somerville . . . . .	Somerville Latin High School.
'06	John Robert Nichols . . . . .	John Harvard . . . . .	Somerville . . . . .	Somerville Latin High School.
'07	Frank Conrad Nieweg . . . . .	Price Greenleaf . . . . .	Oxford, Pa. . . . .	State Normal, West Chester, Pa.
'06	Milton Percival . . . . .	John Harvard . . . . .	Ann Arbor, Mich. . . . .	University of Michigan, Ann Arbor,
'06	John Wallace Plaisted, 2d. . . . .	John Harvard . . . . .	Worcester . . . . .	Worcester Classical School. [Mich.
'07	Walter Heilprin Pollak . . . . .	Bowditch . . . . .	New York, N.Y. . . . .	Columbia College, New York, N.Y.
'07	David Rines . . . . .	Warren H. Cudworth . . . . .	East Boston . . . . .	East Boston High School.
'07	Will Carson Ryan . . . . .	Bowditch . . . . .	New York, N.Y. . . . .	Morris High School, New York, N.Y.
'07	Isaiah Leo Sharfman . . . . .	Bowditch . . . . .	Roxbury . . . . .	Boston Latin School.
'08	Randolph Norris Shreve . . . . .	Bigelow . . . . .	Ferguson, Mo. . . . .	Miss Cornelia Coulter, Ferguson, Mo.
'06	Albert Cliff Sproul . . . . .	Bowditch . . . . .	Roxbury . . . . .	Roxbury High School.
'07	Paul Russell Temple . . . . .	Price Greenleaf . . . . .	Athol . . . . .	Athol High School.
'06	Ralph Edson Tibbetts . . . . .	John Harvard . . . . .	Albion, N.Y. . . . .	New York University, New York, N.Y.
'06	Otis Johnson Todd . . . . .	Richard Augustine Gambrill Palfrey Exhibition . . . . .	} Blooming Valley, Pa.	{ A.M. Chesbrough Seminary, North Chili, N.Y.
'06	Frank Charles Wheeler . . . . .	Class of 1802 . . . . .		
'06	Herbert Eustis Winlock . . . . .	John Harvard . . . . .	Newport, Vt. . . . .	Somerville Latin High School.
			Washington, D.C. . . . .	Western High School, Washington, D.C.

of expert and learned bodies, and are not hastily or thoughtlessly amended; its examinations are conducted with "dignity and security"; the reading and the grading of the books are administered with care. To accept the Board examinations freely would relieve Harvard of the considerable expense of maintaining examinations outside of Cambridge. Finally, the great number of places at which the Board examinations are held gives it an opportunity to reach the youth of the country such as no single college can hope to attain. By accepting its examinations Harvard can make its instruction accessible to boys in the most remote parts of the country who otherwise would never think of taking the long journey to reach a place where Harvard conducts its own examinations.

It seems highly desirable, therefore, that the Departments should, if necessary, in view of the manifest advantages to be obtained, make some concessions of individual preferences. To insist upon a requirement different in details from that of any other college, involving in schools the institution of a special class for "those preparing for Harvard," impedes not only the school but also the College. The chief object of admission examinations is not so much to ascertain whether every detail of a minutely outlined course of studies has been covered as to determine whether a candidate is sufficiently developed intellectually to undertake successfully the work of the College.

The members of the Administrative Board for the year were Professors Willson, C. P. Parker, Gardiner, Coolidge, Hurlbut, Johnson, Ward, Gulick, Palache, C. H. C. Wright, Woodworth; Messrs. Cram, Hart, Whittemore, and Lyman.

During the year two students were dismissed for deliberate cheating and lying, and four were suspended, two (one was subsequently allowed to withdraw) for taking unauthorized vacations, and two for handing in written work not their own. The Board closed the probation of twenty-five students, all of whom had unsatisfactory records both of attendance and of scholarship and had been warned, most of them repeatedly, both by the Recorder and by the Dean. In the cases of four, other matters of minor College discipline were involved.

The number of scholars who won a position in the First Group on the work of the year 1904-05 was forty-eight, of whom thirty-seven held stipendiary scholarships, and eleven, honorary.

Shortly after the beginning of the year the Board adopted the definite policy of requiring every student to maintain throughout the year a satisfactory record in his studies, meaning by "satisfactory"

such grades at the November, the mid-year, and the April examinations as, had they been final, would have won him promotion. Every student whose record fell below this very moderate standard was treated (unless there were exceptional circumstances in the case), so far as possible, as he would have been at the end of the year: he was not, of course, dropped to a lower class, but he was placed on probation. This action naturally resulted in a much freer use of probation than heretofore, and many exaggerated reports of the number of students on probation were in circulation. As the Board adopted the natural corollary of its position, — that a student should be restored to regular standing as soon as his record warranted this, — the number of students on probation was constantly shifting as the returns from instructors enabled the Board to consider completed records. Accurate figures of the exact time when the proportion of students on probation was highest cannot be secured without an unwarranted expenditure of clerical labor, but from figures submitted by the Recorder, the best judge in this matter, the percentage of Freshmen did not at the highest exceed twenty-three, while in the whole four classes it was not above fourteen.

The logical and just position of the Board met with opposition, — much from students with low records, some from the less thoughtful parents, both of whom maintained that the “punishment” was too severe. It is true that “probation means serious danger of separation from College,” but it is equally true that it leaves the decision of the question wholly in the hands of the student: it is his chance to prove his right to keep his connection with the College. By forbidding such a student to represent his College or his class, or to take part in public performances or contests, the rule requires him to put his studies ahead of all other interests. It is the opposite of this, — the subordination of studies to athletics, work on college papers, theatricals, club life, even philanthropic and religious interests — these and many other avocations, all excellent and becoming if only properly adjusted to the great purpose of the College, — that keeps the Recorder’s and the Dean’s offices busy. For many years the general understanding of the Faculty has been that an instructor may demand from the student two hours of preparation for every hour of class-room work, or, generally speaking, nine hours a week per course in lectures or recitations and preparation outside the class-room. A student, therefore, electing the prescribed number of courses should work between six and seven hours a day. Last year a large number of students summoned to the office for unsatisfactory records were questioned in regard to the amount of

time they spent on their courses. Naturally, under the circumstances, they were not likely to underestimate this. All spoke with admirable frankness. Their answers uniformly supported the conclusion of the Committee on Improving Instruction. The replies to the question, "Do you work on an average seven hours a day?" may all be summed up in the answer of a single Freshman, "No; nobody that I know of works seven hours a day"; — and the comment of a Senior on this answer, "I am sorry that he said it, but I think he told the truth about us." Seven hours a day for the serious business of college are not too many to ask of healthy young men, able to pass the admission examinations; yet a considerable number of students feel, or rather maintain, that they are "really working hard" if during the weeks of lectures and recitations they give on an average four or five hours a day to college engagements and to study. To hold such men, therefore, to regularity in attendance and the maintenance of "promotion rank" is the plain duty of any governing board.

On the other hand, to give to serious students doing good work every encouragement and all freedom consistent "with the collective interests of the classes or sections to which they belong" is even more to be desired. Toward this end the Faculty made great progress when it adopted the new requirements for a degree with distinction (the first draft of these considered by the Faculty was printed last year in the report of the Dean of the Faculty) which, in 1908, go wholly into effect as the only method of obtaining such a degree. The purpose of the new rules is best stated in the preface to them prepared by the Committee: —

#### NEW RULES.

"It is the object of the new arrangement to lead the undergraduate to feel that under the elective system he has the great opportunity of doing in College at least some one piece of advanced work with such thoughtfulness, such careful study, and such attention to detail that the training thus gained will be of benefit to him whatever may be the nature of his later pursuits in life. In the opinion of the Faculty every undergraduate of superior ability should look to a considerable amount of advanced work in some subject or related subjects as a natural part of his undergraduate career.

"Yet it is not to be imagined that the Faculty intends to call for anything like original research on the part of undergraduates, or for the passing of examinations similar to those required for the higher degrees. Nothing is intended which should put the degree with distinction out of the reach of a student of good ability. In fact, it will be seen that under the new arrangement the degree *cum laude*

(but not *magna cum laude*) may still be obtained on general studies, though the courses which the candidate takes may no longer be wholly elementary.

“Candidates for the degree with distinction in a subject or related subjects may obtain, at an early stage, the advice of the appropriate Division, Department, or Committee, so that their courses may be chosen and their work carried on in accordance with a definite educational plan. The degree *cum laude* or *magna cum laude* will be given to such candidates according to the excellence of their performance. Finally, it is provided that candidates for this degree may record themselves at the office of the Dean of Harvard College, who will thereafter trust them with greater responsibility and discretion in the ordering of their College work.

“A Commencement Part is assigned to every student recommended for a degree with distinction: an Oration to a candidate for a degree *summa cum laude*, a Dissertation to a candidate for a degree *magna cum laude*, and a Disquisition to a candidate for a degree *cum laude*. The words *Oration*, *Dissertation*, and *Disquisition* indicate merely the grade of distinction in the degree, and do not imply differences in the nature of the Commencement Parts.

#### VOTES OF THE FACULTY OF ARTS AND SCIENCES.

“1. The Degree of Bachelor of Arts with Distinction is awarded in two grades, *cum laude* and *magna cum laude*.\*

“2. *Cum laude* on General Studies. A candidate is recommended for the degree *cum laude* who has obtained grade A or B in nine elective courses, but courses regularly open to Freshmen count for this purpose only as half-courses. He must have obtained a grade above D in at least two-thirds of his remaining work, that being the standard now required for the degree without distinction.

“3. *Cum laude* on a Subject or Related Subjects. A candidate is recommended for the degree *cum laude* who has completed a considerable amount of advanced work in some subject or related subjects, and who has been recommended on the ground of this work to the Faculty by a Division or a Department, or by a Special Committee† appointed by the Faculty for this purpose. He must have obtained a grade above D in at least two-thirds of his remaining work, that being the standard now required for the degree without distinction.

“4. *Magna cum laude*. A candidate otherwise qualified for the degree *cum laude* on a subject or related subjects is recommended for the degree *magna cum laude* who has been recommended to the Faculty for this degree by a Division or a Department or by a Special Committee on the ground of high distinction.

“5. The subject or related subjects in which the degrees *cum*

“\* It is understood that nothing in these votes shall prevent the award of a degree *summa cum laude* in an extraordinary case.

“† *E. g.*, the Committee on Honors in Literature, which will recommend a candidate on studies in related subjects.”

*laude* and *magna cum laude* are conferred under sections 3 and 4 will be mentioned in the diploma and on the Commencement Programme.

“6. A candidate who fails to obtain the degree with distinction in a subject or related subjects may nevertheless receive the degree without distinction on the recommendation of the Division, Department, or Committee concerned.

“7. A student intending to become a candidate for a degree with distinction on a subject or related subjects will record his name at the office of the Dean of Harvard College. This he may do as early as the beginning of his Sophomore year, or at any time not later than November 1st of the academic year in which he expects to receive the degree; but a Division, Department, or Special Committee may fix as the latest date in its own case a time earlier than November 1st of that year.

“8. A student who records himself as intending to become a candidate for the degree with distinction on a subject or related subjects is entitled to have his name placed upon a List at the beginning of his Sophomore year, providing he has not fallen below C during his Freshman year, or at any later time when he has satisfied the Dean of Harvard College that he is fit to have his name placed upon the List; and any student who has been in one of the first two groups of scholarship holders during any year is entitled to have his name placed upon the List during the succeeding year. The name of any student may be withdrawn from the List at any time on recommendation of the Department under which he is working, or by the Dean after consultation with that Department, if the student fails to obtain or maintain after being entered on the List a standard of scholarship and conduct satisfactory to the Dean.

“9. Students whose names are on the List will, except for registration, be trusted by the Dean with greater responsibility and discretion in the ordering of their College work, so far as this does not interfere with the collective interests of the classes or sections to which they belong, and will be excused during their last year in College from examinations in courses belonging to their subject or related subjects, in case the Division or Department under which they are working has provided some other public test than those examinations as the ground for its recommendation.”

From these extracts three great advantages of the new plan over the old are at once apparent. In the first place, a student who has had “a very foolish Freshman year” may still, by turning squarely about, retrieve himself and win distinction, — a few unsatisfactory grades in the courses counted for his degree no longer cut him off from this: under the old plan there was little chance for him. In the second place, students are invited to do serious intellectual work during the summer vacation, a time given up by far too many simply to amusement. In the third place, the new plan proposes a more



careful adjustment of courses,—greater unity in the college course,—for even the degree *cum laude* on General Studies distinctly encourages a student to carry his work beyond the merely elementary courses of a particular subject. Encouragement in these three directions is of incalculable benefit.

B. S. HURLBUT, *Dean*.



# THE LAWRENCE SCIENTIFIC SCHOOL.

TO THE PRESIDENT OF THE UNIVERSITY :—

SIR,—As Dean of the Lawrence Scientific School I submit to you the following report for the academic year 1904—05.

The number of students registered in the School during this and the immediately preceding academic year, their distribution in classes, as well as the numbers registered for the admission examinations, are set forth in the following tables :—

## REGISTRATION BY CLASSES.

Class.	1903-04.	1904-05.
Fifth-Year . . . . .	..	1
Fourth-Year . . . . .	85	92
Third-Year . . . . .	80	66
Second-Year . . . . .	149	138
First-Year . . . . .	114	105
Specials . . . . .	120	128
Totals . . . . .	548	580

## SPECIAL STUDENTS.

Number of years in attendance.	1903-04.	1904-05.
One . . . . .	70	79
Two . . . . .	41	33
Three . . . . .	9	13
Four . . . . .	..	3
Totals . . . . .	120	128

## REGISTRATION FOR ADMISSION EXAMINATIONS.

Year.	Preliminary.	Final.	Total.
1904 . . . . .	111	172	283
1905 . . . . .	98	215	313

## DISTRIBUTION OF STUDENTS IN FOUR-YEAR PROGRAMMES.

Programme.	1903-04.	1904-05.
Civil Engineering . . . . .	72	68
Mechanical Engineering . . . . .	56	57
Electrical Engineering . . . . .	74	84
Mining and Metallurgy . . . . .	68	67
Architecture . . . . .	40	44
Landscape Architecture . . . . .	16	15
Forestry . . . . .	7	8
Chemistry . . . . .	23	24
Geology . . . . .	4	5
Biology . . . . .	14	11
Anatomy and Physiology . . . . .	35	26
Teachers of Science . . . . .	13	23
General Science . . . . .	126	98
Totals . . . . .	548	580

From these tables it will be seen that there has been a decrease of eighteen in the total number of students registered in the School, as compared with the number registered in the previous year. This loss is more than accounted for by the fact that there was a diminution of twenty-eight in the number enrolled in the programme known as General Science. It was expected that with the recent increase in the requirements for entrance this programme would no longer prove attractive, as students could obtain the same training by entering the College, where the degree may be obtained with about one-fifth less work and with freedom of election of studies. In 1902, when the studies required for entrance to the School were made equal in weight to those of the College, the number enrolled in General Science was 141; in the Catalogue of the academic year 1905-06 the number is 66. At this rate of decrease, this group of students is evidently soon to disappear. The other programmes of the School, — those leading towards the several more or less professional employments in applied science, — have as a whole made a slight gain, which appears to indicate that the effect of the increase of the admission subjects has been overcome.

During and since the increase in the attendance in the last decade those in charge of the School have been much concerned by the money needs of its students. In much larger proportion than in the other parts of the University these young men need help. The greater part of them come from families which can ill afford to support a son in college, and do so with great difficulty. Probably about one-third of those now in the School need and deserve some measure of help in order that they may not be ill-fed or insufficiently lodged. As the provision in the way of scholarships is small, there being but 19 in the academic year 1904-05, an arrangement has been made for a system of loans, which, though it has been essayed only for about ten years, has already proved an effective means of help. The work was begun in a small experimental way, with the purpose of ascertaining how far money loaned on the expectation of the success in life of promising youths would be repaid by them. The allotments have been made after a careful personal study of each case, and in sums ranging from a few dollars up to two hundred per annum. No interest has been charged while the student was a member of the School; after that the rate has been four per cent. per annum. The only security has been the written promise of the recipient that he will repay before a certain date, usually some years after graduation. The results of this experiment are roughly exhibited in the following tables: —

Loans outstanding, <i>past due</i> , about . . . . .	\$6650.00
Loans <i>not yet due</i> , but men now out of the School, <i>about</i> . .	6950.00
Loans <i>not yet due</i> , to men now in the School, but prior to the current year, <i>about</i> . . . . .	6175.00
Loans made this year — since September, 1905, . . . . .	2200.50

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Loans made during year 1902-03 . . . . .	\$3932.28
Loans made during year 1903-04 . . . . .	4162.16
Loans made during year 1904-05 . . . . .	3980.64
Loans made during current year, 1905-06 . . . . .	2200.50

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Amount of loans repaid <i>prior</i> to 1902-03 . . . . .	\$2185.47
Amount of loans repaid during 1902-03 . . . . .	2367.66
Amount of loans repaid during 1903-04 . . . . .	1411.87
Amount of loans repaid during 1904-05 . . . . .	2580.47

It should be observed that more than three-quarters of these loans have been made within the last five years, so that by far the greater part of the money not repaid is not yet due. So far as it has gone, the experiment shows that it is safe to reckon on the reasonably prompt repayment of the greater part of the money thus loaned. The bad debts are due only in small measure to a lack of honesty on the part of the recipient. They seem to be attributable mainly to deaths, or, in seldom cases, to the failure of what were judged to be youths of promise to fulfil the expectations of their future.

As the number of persons who have received loans amounts to at least five hundred, this experiment appears to rest upon a sufficient foundation to warrant confidence in the future of the project. In the opinion of those who have so far administered the work, its success depends upon maintaining the conditions under which the loans have so far been made. These conditions are as follows: —

The grants are made only to those who are deemed promising subjects for such investments. In a few instances they have been made to men about to enter the School, but only where there is good reason to believe that they are worthy of help. When possible, the needs of the families whence the applicants come are ascertained. The career of the graduates who have received loans is followed, and letters are written to such of them as fail to repay at the appointed time. Such letters are usually effective.

The advantage of this system over that by which students are aided through scholarships or other direct gifts of money is obvious. A loan made on the expectation of a youth's success in a professional career, and his promise to repay on or before a definite time, so far from tending to weaken his self-respect, gives him confidence

in his value. While he, of course, sees that it is not an ordinary business transaction, for pecuniary gain is not the object of the lender, the sense that he is chosen, because of a belief that he will win his way and be faithful to his obligation, is evidently most helpful to him.

As is readily seen, this method of helping youths has the peculiar advantage over scholarships that the money thus invested somewhat rapidly increases, through its return to the lender. While in the history of the School there has been but one instance of a repayment of advances in the form of scholarships, more than one-half of that loaned as above described has already been returned, and the repayment of at least three-quarters may be, with reasonable confidence, reckoned on. Without any other contributions to this so-called Loan Fund, it may be expected, with proper management, to be doubled within twenty years. This administration, to be successful, must continue the personal quality of its management, and retain the features of fairly close inquiry into the needs of the borrower, as well as the plan of insisting on repayment when the advances become due.

The discipline of the School appears to be in a satisfactory condition. During the year one hundred and fifty-three students were placed on probation for inadequate performance of duty. One was for this reason suspended from the School. Two were punished for handing in written work not their own, and of these one was dismissed, since it was not his first offence. As for other ordinary vices, they have practically disappeared. There has been but one case of drunkenness, gambling, or sexual vice to deal with in the past two years. It is evident that this is in no sense due to a lack of watchfulness on the part of the proctors and other officers. It seems to mark a change in the temper of our youths.

N. S. SHALER, *Dean*.

## ATHLETIC SPORTS.

TO THE PRESIDENT OF THE UNIVERSITY: —

SIR, — I have the honor of submitting to you a report for the academic year 1904–05 on the work of the Committee on the Regulation of Athletic Sports.

The Committee held its first meeting and was constituted in June, 1904. Professor H. S. White was elected Chairman, and as such exercised supervision over athletic matters throughout the summer, but Professor I. N. Hollis has continued, by request, to take charge of the improvement of Soldier's Field. In the autumn, Professor White was suddenly called to Europe on leave of absence. As it was then his expectation to come back by the middle of the year, he did not immediately resign his chairmanship, but did so later, and Assistant Professor A. C. Coolidge, who had been acting in his place, was chosen as his successor. A vacancy in the Committee, caused by the resignation in April of Mr. T. N. Perkins, was filled by the appointment of Mr. R. F. Herrick. As Mr. Roger Ernst did not wish to continue as Graduate Treasurer after this season, Mr. H. S. Thompson was appointed for 1905–06.

During the past academic year the work of improving our athletic grounds has continued steadily, if rather slowly. On Soldier's Field a temporary wooden fence has been erected on the open side, along the line of the future street, so that the Field is now completely enclosed. The filling in of the marsh and the adding to the land actually available for athletic purposes is proceeding, though not as fast as might be wished, for we continually need more room in order that all students who are anxious to may have an opportunity to take part in out-door sports. The Committee feel that it is most desirable to satisfy this want as liberally as possible, but the filling in, grading, and planting with grass, of each fresh bit of the marsh land, usually takes at least two years to do satisfactorily, and we are even more hampered by the many calls on our funds. The work on the Stadium has had to come to a standstill for the time being, and is not likely to be taken up again, until the present debt has been paid off. This pause, however necessary, is to be regretted, as the completion of the structure (by the erection of the proposed

colonnade) would much improve its appearance. On Holmes Field four more tennis courts have been prepared to meet the increasing demand.

One of the most important events in our last athletic year has been the renewal of the dual agreement with Yale. This agreement has worked very satisfactorily. Under its provisions there has been little room for misunderstanding, and the athletic relations between the two universities have been excellent. It was felt however, at Harvard, that certain slight additions, already incorporated in our own rules, were desirable, and these modifications Yale readily and courteously accepted, after a conference held in New Haven between representatives of the two athletic committees. One of these changes is a regulation that the student who has played on a so-called summer nine must prove to his committee, before being allowed to take part in college sports, that he has not received any compensation for his services. The whole question of summer nines is one of peculiar difficulties, which have not yet been satisfactorily met. A second and more important change is that which provides that in cases of trivial and technical infringement of the rules of eligibility, occurring before a boy goes to college, he may be restored to standing by the athletic committee. Notice of this decision shall be sent to the committee of the other university, and in case they find reason to object, the case shall be referred to the arbitrators of athletics in New York. This provision appears to have been misconstrued in certain quarters. It was not at all the intention of either university to lower the standard of the rules concerning eligibility and to "whitewash" offenders, as has been charged. The purpose was merely to meet cases where the application of these rules to the letter was absurd if not impossible, and at any rate entailed great hardship. Under a literal interpretation, not only at Harvard and Yale, but throughout the country, a boy who has been rewarded with five cents by his father, for beating his brother in a race to the garden gate, has thereby become a "professional" in all branches of competitive athletics for the rest of his life. Last autumn a member of the Harvard Freshman Class was refused permission to go down to New Haven on his foot-ball team because, as he voluntarily reported, he had received one dollar as a prize in some school sports seven years earlier. It is evident that such absurd instances are not only unjust to the sufferers themselves, but also must tend to stultify the rules, and to make men conceal facts which, in honesty, they ought to reveal. There is, too, no reason to fear that the new provision agreed to between Harvard and Yale will lead to abuse.

During the last year certain slight changes have been made in our own athletic regulations. The discretionary power of the Chairman has been extended in theory more nearly to what it is in fact, for it has been found that he has to give, at least temporarily, immediate decisions on matters which nominally require a vote of the whole Committee. But few additions have been made to the rules, — indeed it would be well if they could be rendered simpler, instead of more complex, as it is hard enough already to get the undergraduates to familiarize themselves with them. Still, the growing complexity of everything connected with athletics makes fresh regulations perhaps inevitable. The system of paying bills for board at the training-tables has suffered from great abuses. It has in many cases been found difficult, if not impossible, to collect such bills after the season has once ended, and in numerous instances the sum charged to the student for his share of the expense of his food, which was supposed to be what he usually would have paid elsewhere, has in reality been considerably below that amount. The Committee hope that they have taken sufficient measures to check further dishonesty of this kind.

Dishonesty and sharp practice in the sports themselves can only be eradicated with the aid of enlightened public opinion, especially among those who have the interests of athletics really at heart. There is no reason why illegal coaching from the side lines should be tolerated among gentlemen any more than cheating at cards, for there is no difference between them in principle. The fact that it would be quite unfair to judge individual cases of them with the same severity at the present day, merely shows how low, in some respects, is the conventional standard of athletic morality, however high it may be in others. Although a sweeping charge would be quite impossible to prove, it may be doubted whether many prominent foot-ball teams in recent years would have been willing to repeat to the world absolutely the whole of the instructions imparted to their members.

Two difficult questions of general policy have recently called for long and careful consideration on the part of the Committee. The first of these relates to the proper disposition of our financial resources. The second is that of the advisability of employing paid professional coaches. Owing to the large sums of money brought in by the ever-growing attendance at the foot-ball games, there was an impressive annual surplus in the athletic accounts for a number of years. This surplus has not unnaturally had a demoralizing effect. Expenses have shown a marked tendency to get larger in almost every branch of sport, and the demands for assistance at the hands



of the Committee have become even more numerous and pressing. To be sure, new sports have come into existence; three during the past year alone, — jiu-jitsu, hand-ball, and association foot-ball. This last tendency in itself is a thing to be encouraged, for the greater the diversity in the sports, the larger will be the number of students who can actually take part in them; though whether every new team should be at once allowed to join an intercollegiate league, and be granted the necessary absences from Cambridge, is another question. Still, it was not only the new teams that needed aid; others which had before got along without any, now appealed for it, and each individual request was usually reasonable enough. Thus, the subsidies granted by the Committee, in a rather haphazard manner, went on increasing till 1904, when the change in our financial situation, owing to the cost of the Stadium, helped to make clear that the time had come for a more carefully considered policy than had heretofore been followed. As a result the Committee adopted the principle that leaving out of consideration foot-ball and baseball, as self-supporting, all other sports should be maintained, at least in part, by subscriptions among the students. In the case of the crew and the track team, where the expenses came to several thousands of dollars, it was decided that only the smaller portion of the necessary funds need be furnished by the undergraduates themselves, but in the so-called minor sports, whose cost never should be large, no contribution was to be made from the general funds except for "permanent equipment," which term has been very liberally interpreted in practice. The Committee felt that if it were impossible to obtain from the students the trifling sum necessary for the maintenance of any one of the minor teams, it was proof that no pressing demand for that kind of sport existed. This decision has provoked violent criticism. In particular the Committee were charged with legislating against the minor sports, in spite of the fact that the amounts still to be raised for the crew and the track team are considerably larger than for anything else. It is, of course, not to be wondered at that the students prefer to have the expenses of their games paid from a general fund due to gate money, rather than that they themselves should bear any burden, no matter how much smaller it may be than what appeared natural a few years ago. They are, therefore, unwilling to subscribe, and are inclined to resent it when such a call is made upon them, all of which has borne hard on the managers who have to raise the money. However, while recognizing that complaints under these circumstances are to be expected, the Committee have adhered to their belief in the wisdom of their action. They are



of the opinion that the tendency to apply for assistance to the general funds, whenever money is needed, is demoralizing in itself, and that the present subscriptions, which are far lighter per man than they were in the recent past, cannot be called a serious burden on the undergraduate body. The necessity for paying off, as soon as well may be, the debt on the Stadium, enforces economy in the management of our finances, but even if no such necessity existed there is serious danger in a policy of subsidizing every form of athletic amusement that appeals to a larger or smaller number of enthusiasts. Such a system encourages extravagance and weakens the sense of responsibility. The idea that a sport should be as nearly as possible supported by those who care for it is of moral value in itself. Our accumulated surplus of former years has disappeared, and one may well doubt whether it should ever be reconstituted. The Committee believe that when, years hence, our debts have been paid, the Stadium is finished, the Soldier's Field has been extended, and other pressing needs have been met, if then we are once more called upon to face the probability of an imposing balance in our favor, the time will have come, not to distribute gratuities right and left, but to reduce our huge gate receipts by cutting down the price of admission to our games.

Although there is nothing new in the employment of professional coaches at Harvard, it has always been held here that such employment is as a rule undesirable, and should be restricted within narrow limits. Until the last season amateur coaching has prevailed, in the main, in three of the four most important sports as well as in almost all of the smaller ones. This is no longer the case, and yet there has been no change in the sentiment of the Committee. The question bristles with difficulties of all kinds. It should be remembered in the first place that the employment of professional coaches has not necessarily anything to do with the spirit in athletics known as "professionalism," although there is an obvious danger in that direction. Likewise, it should be kept in mind that professional instruction is almost indispensable in certain branches of athletics, and that any line drawn between them appears arbitrary. We assume, nearly as a matter of course, that a student should learn fencing or boxing from a paid professional teacher. It seems, too, not only proper but desirable that a boy who has never been on the water should get the first rudiments of rowing from a professional expert. Why in the nature of things should not base-ball and foot-ball be taught in like manner? And if the fencing teacher trains his pupil for a contest, why should not a rowing expert be paid to do the same? Even

if we feel that distinctions of some sort can be drawn, it is very hard to put them into practice, and still harder to convince of their justice those whose chances of victory are diminished by them. The Harvard Athletic Committee have believed, and still believe, not that there is anything bad in itself in a student's taking athletic lessons from a regular teacher, nor that the teacher's influence is necessarily an unfortunate one, but they hold strongly that winning is not the only, or even the chief object of sport, and that the spirit of the best kind of amateur — that of sport for sport's sake — inevitably suffers under a system where each team is made up of the obedient tools of a highly paid professional. Under such a system, contests tend to degenerate into the triumph of this or that coach. The Committee are also convinced that the paying of great sums of money to men who instruct our youths in what should be not their work but their play, tends to vitiate the opinion not only of the student body, but of the whole community, as to what is of real importance in a college training and in the education of a young man. At the same time neither Harvard nor any other institution is in a position, as yet, to grapple boldly with the evil. If we are to let our undergraduates take part at all in intercollegiate contests, we cannot expect them to do so under conditions of what seem to them hopeless inferiority. Nor can we persuade a base-ball or foot-ball player that what is permissible for the crew or track team is an evil thing by which he must, under no circumstances, be allowed to profit. The question of when, how, and where to draw the line in these matters is not to be lightly answered, and the solutions arrived at to-day may soon prove to be unsatisfactory.

At Harvard the situation in regard to the four principal branches of sport was as follows at the beginning of last term: The track team, like its rivals in other colleges, had always had the services of a professional trainer, and had enjoyed a fair proportion of victories. The base-ball team, which for a number of years had been generally successful, had had no professional coaching, except for a few weeks in the spring in pitching, batting, and base-running. The foot-ball team, although it had an amateur head coach, had for some time past employed a paid former player to teach certain special points, and even the head coach for the coming year was to receive money sufficient to make good losses which he incurred by devoting himself to his task. As regards rowing, although at each boat-house there was a trainer in the principles, who also prepared men for the inter-club races, still the University and Freshman crews had always had nothing but amateur coaching from graduates, with the exception of

the previous season when a coach from outside had been paid a salary sufficient to compensate him for his loss of time and money. The record of the crew, like that of the foot-ball eleven, had been one of almost uniform ill success, and there was a strong desire for a radical change of system.

The question came up first in connection with the crew. Another disastrous defeat at New London had deepened the conviction among rowing men, graduate and undergraduate, that something decisive must be done. Yale had openly adopted the policy of a professional coach for her crew, and declared that she was perfectly satisfied with the result. In answer to the arguments in favor of an amateur, she could always reply that it was comparatively easy for Harvard to get graduate assistance from the neighboring town of Boston, but New Haven was too far away from any great city for a similar arrangement to be possible at Yale. On our side, it seemed the time had now come when we could no longer ask our students to go through the long and severe training requisite for the University crew, in order to meet what they would regard as almost certain defeat. The only alternatives were either to send an ultimatum to Yale, which might be difficult to justify and which might lead to our giving up intercollegiate rowing altogether — for all our other likely rivals have paid coaches — or to fall into line with the rest ourselves. This second course appeared to the Committee to be on the whole the wiser of the two as well as the fairer thing to our undergraduates. They therefore reluctantly consented to the request of the crew management for the appointment of a regular paid coach.

The foot-ball situation was likewise brought to a crisis by a severe defeat. Apparently the almost unanimous demand of the Harvard public interested in the subject was that the next year's team should be put under the charge of a certain graduate who, it was stated, was alone capable of ensuring a fair prospect of success. It so happened that the gentleman in question lived at a distance, and had a regular salaried position which he could not abandon, even temporarily, without a very considerable pecuniary sacrifice, such as he had no right to make without adequate compensation. It was necessary to offer him a large sum merely to make good the losses he would incur, — in fact, a salary greater than that of any professor of Harvard University. The Committee long hesitated. Unwilling as they were thus to add fresh importance to the overgrown game of foot-ball, the question remained: were they in duty bound to forbid the one means by which it was generally believed our foot-ball could be put on a more satisfactory footing, and that by one of our

own graduates? They recognized that there is no inherent reason why foot-ball should not be allowed the same advantage as is already granted to other sports, and they did not think that an uncompromising attitude on their part on this occasion would particularly further a reform of the whole system of intercollegiate athletics. Here again they yielded, but though they had no criticism to make of the amount of the compensation as such, they determined, at least, to assert that they were unwilling to pay any athletic instructor so high a price. Accordingly, they offered only half of the money required, while agreeing to permit the graduates interested in foot-ball to make good the remainder. It is perhaps superfluous to add that this remainder was almost instantly guaranteed.

Although the Harvard Athletic Committee do not regret the decision which they arrived at in these two cases, they recognize that we are in great measure abandoning a standard we have always tried to maintain. It is also true that there is no particular prospect of improvement in the immediate future. Every year in athletics is an "exceptional" one, and aids accepted temporarily soon come to be looked upon as indispensable, if they lead to success. Other sports, down to the most insignificant, will demand that they too should have the most efficient instruction, and the cost of this instruction bids fair to increase steadily. Many of our graduates while opposed in theory, they say, to our employing professional coaches, proclaim that if we are going to have them, we must get the best, *i.e.*, the most expensive. This feeling, however, is not confined to Harvard; hence we may expect that under the keen competition for the services of the most fashionable teachers of this kind, their salaries will rise higher and higher. It is impossible to foresee the end of this or to predict when the reaction will come. Perhaps some day it may be found that the sole way to reform intercollegiate athletics is to change them root and branch, to dispense, not only with the services of hired professionals, but also with all outside assistance. If coaches as well as players had to be undergraduates, would not our students' games be more truly their own? Are skilful strategy and technical perfection more important than true sport?

ARCHIBALD CARY COOLIDGE, *Chairman.*

# THE GRADUATE SCHOOL OF ARTS AND SCIENCES.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — As Dean of the Graduate School of Arts and Sciences I have the honor to submit my report upon the School for the academic year 1904–05.

The members of the Administrative Board were Professors Davis, G. F. Moore, Kittredge, Münsterberg, Sabine, Bôcher and Carver, and the Dean. The only new members were Professors Sabine and Carver. The Board lost two members of previous years, Professors Jackson and von Jagemann, to both of whom the School is greatly indebted for long and useful service; Professor Jackson had been a member of the Board from the organization of the School in 1890. The Board met only eight times in the course of the year; with the increased supervision given by Divisions to programmes for the degree of Master of Arts, the necessity of very frequent meetings of the Board has ceased.

In this Report the following topics are considered : first, the members of the School and their studies in general; secondly, the degrees for which recommendations were made at the close of the year and the holders of these degrees; thirdly, fellowships and scholarships; and, fourthly, miscellaneous topics.

## STUDENTS.

The number of students registered in the School in 1904–05 was three hundred and ninety-five, a number exceeded only in 1903–04 and in the present year.

TABLE I. — NUMBER AND CLASSIFICATION OF STUDENTS.

	1902-03.	1903-04.	1904-05.
I. Resident Students doing full work in the School for the whole academic year . . .	216	289	273
Resident Students not doing full work or not working for the whole year as Resident Students . . . . .	94	123	105
	— 310	— 412	— 378
Non-Resident Students holding fellowships .	15	14	15
Non-Resident Students not holding fellowships	0	1	2
	— 15	— 15	— 17

<b>II. Students whose studies lay chiefly in *</b>			
i. Semitic Languages and History . . . . .	1	2	2
ii. Ancient Languages (Classics and Sanskrit)	37	37	34
iii. Modern Languages (including Comparative Literature) . . . . .	74	111	96
iv. History and Political Science . . . . .	52	78	86
v. Philosophy (including Education) . . . . .	50	64	52
vi. Fine Arts (including Architecture) . . . . .	11	15	19
vii. Music . . . . .	0	5	4
viii. Mathematics . . . . .	22	21	14
ix. Engineering . . . . .	5	9	3
x. Physics . . . . .	12	14	14
xi. Chemistry . . . . .	24	25	27
xii. Biology . . . . .	19	19	20
xiii. Geology . . . . .	12	20	14
xiv. Anthropology . . . . .	2	0	5
Unclassed Students . . . . .	4	7	5
	— 325	— 427	— 395
<b>III. First-year Students . . . . .</b>			
Second-year Students . . . . .	83	89	92
Third-year Students . . . . .	36	51	45
Fourth-year Students . . . . .	13	18	18
Students in a fifth or later year . . . . .	18	10	3
	— 325	— 427	— 395
<b>IV. A.B.'s and S.B.'s of Harvard University and of no other institution . . . . .</b>			
A.B.'s and S.B.'s (and holders of similar degrees) of other institutions and also of Harvard University . . . . .	26	25	15
Students not holding the Harvard degree of A.B. or S.B. . . . .	203	253	256
	— 325	— 427	— 395
<b>Students holding the Harvard degree of A.M., S.M., Ph.D., or S.D. . . . .</b>			
Students holding the Harvard degree of A.B. or S.B., but not of A.M., S.M., Ph.D., or S.D. . . . .	72	125	94
Students holding no Harvard degree in Arts, Philosophy, or Science . . . . .	153	198	206
	— 325	— 427	— 395

Admission to the School is ordinarily granted to holders of the Bachelor's degree of colleges of good standing, and, by special vote, to a few other persons of maturity. Undergraduates of Harvard College, who have very nearly (within one course) completed the requirements of the degree of Bachelor of Arts, are also admitted to

\* For detailed statistics as to the number of Graduate Students enrolled in the various courses of instruction offered by the Faculty of Arts and Sciences, see the Report of the Dean of that Faculty, pp. 62-90.

the School, but only as candidates for the Master's degree. The colleges and universities that were represented in the School in 1904-05 are named in Tables VI and IX.

Table I exhibits the usual classification of the students of the School, and is given for convenience of comparison for the three successive years 1902-03, 1903-04, 1904-05. My remarks on this table and on the following tables, which supplement it, have reference: first, to the members of the School in general and to the amount of work done by them; secondly, to their fields of study and to the distribution of their work among the courses of instruction offered by the Faculty; thirdly, to their length of residence; and, fourthly, to the extent to which the School draws its members from institutions other than Harvard University.

Of the three hundred and seventy-eight Resident Students, three hundred and thirty-four were in attendance throughout the whole year. Of this number, two hundred and seventy-three were doing either what is technically described as a full year of work (four courses or their equivalent) or a larger amount of work; sixty-one of those in residence throughout the year were doing partial work, that is, less than four courses; of the remaining forty-four Resident Students, thirty entered the School after November 1 (including eight Harvard College Seniors who had fulfilled the requirements for the Bachelor's degree at the close of the first half-year), and fourteen withdrew before the end of the year. The number of late registrations was larger, while that of withdrawals was much smaller, than usual.

In Table II are given the statistics for the last nineteen years of Resident Students doing full or partial work, and of Non-Resident Students, as well as of the whole number of students in the School for this period. The steady increase in the percentage of men who are devoting their entire time to their university work is a good sign. Of the whole number who were in residence throughout 1904-05, nearly four-fifths were doing full work.

The group of Non-Resident Students is composed, as usual, almost wholly of travelling fellows. The privilege of non-resident membership is strictly guarded. It is granted only to men who have previously been in residence at the University for a considerable period.

The second division of Table I indicates in general the fields of learning and science in which the work of the students lay. Although nearly every student concentrates his work, especially if he be a candidate for a degree, in some specialty, either of field or topic, and is therefore properly assigned to some one Department or Division,

TABLE II.—RESIDENT STUDENTS DOING FULL WORK, AND NON-RESIDENT STUDENTS: 1887-1905.

	1886-87	1887-88	1888-89	1889-90	1890-91	1891-92	1892-93	1893-94	1894-95	1895-96	1896-97	1897-98	1898-99	1899-1900	1900-01	1901-02	1902-03	1903-04	1904-05
Resident Students doing full work in the School for the whole academic year . . .	38	48	50	62	62	108	127	162	161	175	194	171	218	227	226	218	216	289	273
Resident Students not doing full work or not working for the whole year as Resident Students . . . . .	96	36	39	84	55	79	78	86	94	105	96	107	103	99	113	86	94	123	106
Whole number of Resident Students . . . .	64	84	89	96	117	187	200	248	255	280	290	278	321	326	339	304	310	412	378
Non-Resident Students holding fellowships .	10	10	9	11	11	9	9	10	12	13	14	15	12	18	14	11	15	14	16
Other Non-Resident Students . . . . .	4	8	1	4	4	4	7	1	5	6	2	..	3	2	..	..	..	1	2
Whole number of Non-Resident Students . .	14	13	10	15	15	13	16	11	17	19	16	15	15	15	14	11	15	15	17
Whole number of students . . . . .	78	97	99	111	132	200	216	259	272	299	306	293	336	341	353	315	325	427	395
Percentage of Resident Students doing full work for whole academic year . . . . .	59	57	56	65	53	58	64	65	63	63	67	62	66	70	67	72	70	70	72



his work in many cases will fall in more than one of these subdivisions; hence the figures given in this table are regularly less than the number of men who actually take work in the Departments or Divisions in the list. Detailed information on the choice of studies of Graduate Students is given in the Report of the Dean of the Faculty of Arts and Sciences (see above, pp. 62-90), and is summarized in Table III below.

In 1904-05 the Divisions of the Faculty, arranged according to the number of students who specialized under each, were: —

Modern Languages,	{	Geology,
History and Political Science,		Mathematics,
Philosophy (including Education),		Physics,
Ancient Languages,		Anthropology,
Chemistry,		Music,
Biology,		Engineering,
Fine Arts,		Semitic.

If we gather the Divisions into three great groups — first, of the languages, ancient and modern; second, of the historical and philosophical sciences; and, third, of the mathematical, physical, and so-called natural sciences — we may note that thirty-four per cent. of the students belong to the first group, forty-three per cent. to the second group, and twenty-three per cent. to the third group. In other words, over three-fourths of the students of the Graduate School of Arts and Sciences in this University in 1904-05 were pursuing the study of languages and literature, together with history, economics, philosophy, and the fine arts, while less than one-fourth were students of mathematics and the physical and biological sciences. This is substantially the proportion of the previous year, whereas the proportions in 1902-03, and before, were two-thirds and one-third respectively. This change is significant.

The proportion of students who received higher degrees at the close of the year is not the same for all Divisions, and it varies also within the several Divisions from year to year. In 1904-05, in the Divisions in which five or more students took higher degrees, we may note that in Philosophy about three-fifths of the students received such degrees; in Ancient Languages, exactly one-half; in History and Political Science and in Chemistry, nearly one-half; in Modern Languages, Biology, Physics, and Geology, a trifle more than one-third. (See Table XIII.)

In my last Report I gave a detailed table (Table III, p. 134) of the number of elections of courses and half-courses by Graduate Students for 1903-04. This table was based on the lists furnished

by the Dean of the Faculty. An examination of the lists for 1904-05 (see above, pp. 62-90) shows no substantial difference between the two years, and this fact makes unnecessary the presentation of a similarly detailed table for the year covered by this Report, and also makes unnecessary extended remarks upon the subject. A summary, however, may be useful (Table III). If we group the courses offered by the Faculty of Arts and Sciences into: first, Courses primarily for Undergraduates; secondly, Courses for Undergraduates and Graduates; and, thirdly, Courses primarily for Graduates, and express the choices of electives in terms of full courses, we shall find, in the case of Divisions where there were ten or more choices, that the number of elections of Graduate Students was as follows:—

TABLE III.—NUMBER OF ELECTIONS OF COURSES (AND HALF-COURSES) BY GRADUATE STUDENTS: 1904-05.

	Courses for Under-graduates.	For Under-graduates and Graduates.	Courses for Graduates.	Total.
Modern Languages . . . . .	18	189	141½	298½
History and Political Science . . .	. .	195	69½	264½
Ancient Languages . . . . .	4½	49½	72	126
Philosophy . . . . .	3	69½	52	124½
Chemistry . . . . .	18½	38	32	78½
Biology . . . . .	7	27½	14	48½
Mathematics and Astronomy . . .	5½	10	30	45½
Architecture (including Landscape Architecture) . . . . .	21	11½	8	40½
Physics . . . . .	4½	11	18	33½
Engineering . . . . .	18½	14	. .	27½
Geology . . . . .	4	19	4	27
Anthropology . . . . .	. .	7	7½	14½
Mining and Metallurgy . . . . .	2½	5	3	10½
Semitic, Fine Arts, Music, Forestry, Mineralogy . . . . .	7½	19½	. .	27
Total (in courses) . . . . .	104½	610½	451½	1166½

This summary indicates that of the entire number of choices of Graduate Students, nine per cent. were of courses primarily for Undergraduates, fifty-two and one-half per cent. of courses for Undergraduates and Graduates, and thirty-nine per cent. of courses primarily for Graduates (last year, 1903-04, the proportions were six and one-half per cent., fifty-seven and one-half per cent., thirty-six per cent. respectively). If we examine the Divisions in which

there is a considerable number of elections of courses primarily for Graduates, we see a striking difference between them: for example, in Ancient Languages, of all the elections of Graduate Students, four-sevenths are of "Graduate" courses; in Mathematics, nearly two-thirds; in Physics and Modern Languages, about one-half; in Philosophy and Chemistry, between one-half and one-third; in Biology, about one-third; in History and Political Science, not quite one-fourth.

The next division of Table I, with which Table IV should be compared, gives information about the period of residence of men in the School. Three-fifths of the students were in the School for their first year. Of these first-year men over one-third secured the Master's degree (eighty Master of Arts, three Master of Science). About one-quarter were in their second year, and the remaining three-twentieths were in their third, or a later, year of residence. The proportion of men in their first year was about the same as in 1903-04, but this was larger than ever before. As I have remarked in former Reports, the majority of men who come to the School intend to remain in it but one year, and not a half of these have a degree in view.

TABLE IV. — PERCENTAGE OF STUDENTS IN THEIR FIRST AND FOLLOWING YEARS: 1899-1905.

	1899-1900.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
First-year Students . .	53	54	50	54	61	60
Second-year Students .	25	23	26	26	21	24
Third-year Students .	11	15	12	11	12	11
Fourth-year Students and Students of longer residence .	11	8	12	9	6	5

A few observations on the academic status of first-year students are pertinent. Whereas in the professional schools a large proportion of the first-year men are fresh from college and expect to remain two or three years in the school, the case is otherwise in our School: thus, of the first-year men in 1904-05, only about forty-one per cent. entered the School immediately after receiving the first degree in Arts or Science, or completing the requirements for it (of this category the proportion in 1903-04 was forty-two per cent., in 1902-03 thirty-two per cent., in 1901-02 twenty-six per cent.). About twelve

per cent. of the first-year men had been one year out of college, that is, had received their degree in 1903; ten per cent. had received the degree in 1902; seven per cent. in 1901, while the remainder, about twenty-nine per cent., had received their degrees in 1900 or earlier, that is, had been four or more years out of college before entering the School. These proportions are surprisingly similar to those of 1903-04. It is an excellent sign that the proportion of men is increasing who are able to continue their advanced studies immediately on leaving college.

The fourth division of Table I shows the extent to which the School draws its members from Harvard University, as contrasted with other institutions. (For detailed information on this point Tables VI and IX may be consulted.) About forty-eight per cent. held a degree from Harvard University, and the remaining fifty-two per cent. of course had no Harvard degree (in 1903-04 as well as in 1902-03 the proportions were reversed, being about fifty-three and forty-seven per cent. respectively). The percentage of students who held no Harvard first degree is given in Table V. The increase here is a

TABLE V. — PERCENTAGE OF STUDENTS FROM OTHER COLLEGES.

	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
Percentage of Students holding no Harvard degree . . . . .	40	41	44	44	40	46	46	52
Percentage of Students holding no Harvard first degree in Arts or Sciences .	■	55	61	62	56	62	59	65

little misleading, since it was due to a large extent to the accession of men from Harvard College who had not actually received the Bachelor's degree (sixteen in number), though they had nearly, or quite, completed the requirements for it.

Tables VI and IX supplement each other and show in detail the extent to which different parts of the country and different higher institutions contribute to the membership of the School. In Table VI are given the various colleges and universities, including professional and technical schools, American and foreign, whose graduates were members of the School, together with the degrees these men held and the number of different men from each institution.

Tables VI, VII, IX show that men continue to come to the Graduate School from colleges and universities in all parts of the country, and,





TABLE VI.—CONTINUED.

	A.B.	S.B.	LITT.B.	PH.B.	A.M.	S.M.	PH.D.	S.T.B.	LL.B.	M.D.	No. De- grees.	No. Per- sons.
North Carolina, University of	2	.	.	.	.	.	.	.	.	.	2	2
Northwestern University, Ill.	.	.	.	.	1	1	.	.	.	.	3	2
Northwestern University, Wis.	1	.	.	.	.	.	.	.	.	.	1	1
Oberlin College, O.	1	.	.	.	.	.	.	.	.	.	1	1
Ohio Northern University	1	.	1	.	.	.	.	.	.	.	3	2
Ohio State University	.	.	.	1	.	.	.	.	.	.	1	1
Ohio Wesleyan University	11	2	.	.	2	.	.	.	.	.	15	14
Oregon Agricultural College	.	1	.	.	.	.	.	.	.	.	1	1
Oregon, University of	1	.	.	.	.	.	.	.	.	.	1	1
Ottawa University, Kan.	1	.	.	.	.	.	.	.	.	.	1	1
Oxford, University of, Eng.	2	.	.	.	1	.	.	.	.	.	3	2
Paris, University of, France*	.	.	1	.	.	.	.	.	.	.	2	1
Pennsylvania, University of	1	1	.	1	1	.	.	.	.	.	4	4
Polytechnic Institute of Brooklyn, N.Y.	.	1	.	.	.	.	.	.	.	.	1	1
Purdue University, Ind.	.	1	.	.	.	.	.	.	.	.	1	1
Queen's University, Ont.	.	.	.	.	1	.	.	.	.	.	1	1
Rhode Island College	.	2	.	.	.	.	.	.	.	.	2	2
Richmond College, Va.	2	.	.	.	1	.	.	.	.	.	3	2
Rochester, University of, N. Y.	5	.	.	.	.	.	.	.	.	.	5	5
St. Anselm's College, N. H.	1	.	.	1	.	.	.	.	.	.	2	1
St. Stephen's College, N.Y.	1	.	.	.	.	.	.	.	.	.	1	1
Shurtleff College, Ill.	1	.	.	.	1	.	1	1	.	.	4	1
South Carolina College	.	.	.	.	1	.	.	.	.	.	1	1
South Dakota, University of	1	.	.	.	1	.	.	.	.	.	2	1
Southern University, Ala.	1	.	.	.	.	.	.	.	.	.	1	1
State University of Iowa	1	.	.	4	2	1	.	.	.	.	8	5
Swarthmore College, Pa.*	.	1	.	.	.	.	.	.	.	.	1	1
Sydney, University of, Australia	1	.	.	.	1	.	.	.	.	.	2	1
Syracuse University, N.Y.	1	.	.	.	.	.	.	.	.	.	1	1
Texas, University of	2	1	.	.	2	1	.	.	.	.	6	3
Toronto, University of, Ont.*	4	.	.	.	.	.	.	.	.	.	5	5
Trinity College, Conn.	2	.	.	.	1	.	.	.	.	.	3	2
Trinity College, N. C.	.	.	.	.	1	.	.	.	.	.	1	1

[illegible]

\* Besides the degrees enumerated above, the following were held by one or more persons each, as indicated : D.D., Upper Iowa University; Th.M., Southern Baptist Theological Seminary, Ky.; Ph.M., Bucknell University, Pa.; Lic.-ès-lettres, University of Paris, France; B.Appl.Sci., University of Toronto, Ont.; B.A.S. (2), Harvard University; Pd.B. (4), Michigan State Normal School (2), First Pennsylvania State Normal School, Millersville, and the University of Missouri; Pd.M., First Pennsylvania State Normal School, Millersville; M.Di., Iowa State Normal School. There were, further, in the School one graduate each of Meadville Theological School, Pa.; Western Theological Seminary, Pa.; Reformed Theological Seminary, Pa.; and the Königlische Academie der Tonkunst, Munich, Germany. There were eight students from Japanese colleges and universities, one of whom also held a degree from an American college. There was one graduate of a German gymnasium who had received no academic degree. There were sixteen Harvard College Seniors on leave of absence; seven other non-graduates of Harvard College; and one non-graduate of the Massachusetts Institute of Technology.



to a slight extent, from those in Canada and foreign lands. The entire number of institutions thus represented is one hundred and thirty-three.

TABLE VII. — FIRST-YEAR MEN: PERCENTAGE FROM VARIOUS COLLEGES AND UNIVERSITIES—1901-02, 1902-03, 1903-04, 1904-05.

	1901-02.	1902-03.	1903-04.	1904-05.
Harvard . . . . .	81	88	88	40
Other New England Colleges . . . . .	14	20	21	12
Colleges in the Central States . . . . .	84	24	18	26
Colleges in States West of the Mississippi . . . . .	9	12	9	12
Colleges in Southern States . . . . .	4	6	7	5
Colleges in Canada . . . . .	7	3	8	2
Foreign Universities . . . . .	..	..	4	3

Table VII gives the percentage of first-year men from various colleges and universities for the last four years. The steady increase of men from Harvard is noteworthy, as is also the sudden decline in the proportion of men from other New England colleges; that of men from colleges of the Central States has become more normal than it was in 1903-04.

The most common degree held by members of the School was that of Bachelor of Arts (three hundred and eleven); next, that of Master of Arts. There were one hundred and fifty-two Masters of Arts, nine Masters of Science, and fifteen Doctors of Philosophy in the School in 1904-05, as against one hundred and sixty-eight Masters of Arts, eight Masters of Science, and ten Doctors of Philosophy in the preceding year.

TABLE VIII. — PERCENTAGE OF BACHELORS' DEGREES OF DIFFERENT KINDS: 1897-1905.

	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
A.B.'s . . . . .	84	86	84	80	84	83	84	82
S.B.'s . . . . .	9	8	10	11	11	10	10	12
Other Bachelors' degrees . . . . .	7	6	6	9	5	7	6	6

The percentage of Bachelors' degrees in Arts and Science for the last eight years is remarkably constant. (Table VIII.)

The list of colleges that send four or more men each year to the School varies only slightly from year to year, as may be seen in Table IX. Leaving Harvard graduates out of consideration, there

TABLE IX.—COLLEGES AND UNIVERSITIES REPRESENTED BY FOUR OR MORE GRADUATES IN THE SCHOOL:  
1900-01, 1901-02, 1902-03, 1903-04, 1904-05.

1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
Harvard, 197 Brown, 11 Amherst, 10 Bowdoin, 9 Oberlin, 9 California, 7 Illinois, 7 Michigan, 7 Yale, 7 Dartmouth, 6 Toronto, 6 Wesleyan (Conn.), 6 Williams, 6 Boston Univ., 5 Kansas, 5 Northwestern, 5 Pennsylvania, 5 Tufts, 5 Beloit, 4 Dalhousie, 4 Haverford, 4 Nebraska, 4 New Brunswick, 4	Harvard, 189 Amherst, 8 Bowdoin, 8 Brown, 8 California, 7 Toronto, 6 Dalhousie, 5 Dartmouth, 5 Ohio Wesleyan, 5 Trinity (Conn.), 5 New Brunswick, 5 Missouri, 5 Haverford, 4 Oberlin, 4 Princeton, 4 Tufts, 4 Yale, 4	Harvard, 174 Brown, 11 Amherst, 10 Bowdoin, 7 Dartmouth, 7 Chicago, 7 Michigan, 7 Columbia, 6 Leland Stanford Jr., 6 Northwestern, 6 Tufts, 6 California, 6 Yale, 6 Haverford, 5 Ohio Wesleyan, 5 Trinity (Conn.), 5 Texas, 5 Beloit, 4 New York, 4 Williams, 4 Wofford, 4	Harvard, 282 Amherst, 14 Brown, 12 Dartmouth, 12 Michigan, 10 Yale, 9 Ohio Wesleyan, 8 Bowdoin, 7 Haverford, 7 Williams, 7 Tufts, 6 West Virginia, 6 Boston Univ., 5 Columbia, 5 Texas, 5 Leland Stanford Jr., 4 Trinity (Conn.), 4 California, 4 Pennsylvania, 4 Toronto, 4 Wesleyan (Conn.), 4	Harvard, 192 Ohio Wesleyan, 14 Dartmouth, 9 Amherst, 8 Williams, 8 Brown, 7 Yale, 6 Boston Univ., 5 Bowdoin, 5 Cornell Univ., 5 Haverford, 5 Leland Stanford Jr., 5 State Univ. of Iowa, 5 Michigan, 5 Rochester, 5 Toronto, 5 Bates, 4 Missouri, 4 Pennsylvania, 4 Vanderbilt, 4
Total Membership, 358	315	325	427	395

were in 1896-97 fourteen colleges represented by four or more men; in 1897-98, eighteen; in 1898-99, fifteen; in 1899-1900, twenty-four; in 1900-01, twenty-three; in 1901-02, seventeen; in 1902-03, 1903-04, and 1904-05, twenty.

The colleges and universities that have been steadiest in the supply of Graduate Students for the past six years, each sending four or more every year, are Amherst, Bowdoin, Brown, and Yale. Other colleges that within this period of six years have sent for five years four or more men are: California, Dartmouth, Michigan, Toronto, Tufts, and Williams; for four years, Boston University, Haverford, Leland Stanford, Jr., Ohio Wesleyan, and Pennsylvania; and for three years, Dalhousie, Oberlin, Trinity (Conn.), and Wesleyan (Conn.).

Three resident members of the Graduate School were holders of travelling fellowships from some other institution, namely, Amherst College, the Rufus B. Kellogg University Fellowship; Bowdoin College, the Charles Carroll Everett Fellowship; the University of Paris, the Cercle Français Fellowship. With these may be classed the holder of the George Foster Peabody Scholarship of this University, which is open only to graduates of the University of Georgia, and the four holders of the scholarships of the Harvard Clubs of Louisiana, Chicago, St. Louis, and San Francisco, who come from colleges in Louisiana or near the cities named, respectively.

Examination of Table VI, particularly of the higher degrees there recorded, and of the list of students, shows that more than half of the students have pursued graduate studies before taking up the work of the year with us. The proportions here differ so little from year to year that statistics need not be given.

An interesting group of students is made up of teachers on leave of absence from colleges or schools where they have secured an established position. Whereas strictly professional students go to a professional school to obtain their equipment, these men come to our School to enlarge or enrich an equipment already obtained. There were in the School in 1904-05 many such students on leave of absence, fifteen from as many colleges, and eleven from as many secondary institutions, including a number of Normal Schools; in fact, there were about one hundred and fifty professional teachers registered as students in the School.

Table X shows a slight increase in the number of students in the School who were born out of New England, a larger percentage than ever before being in residence in 1904-05. The proportionate number of men who claim residence in the Northern States east of the

TABLE X. — BIRTHPLACES OF GRADUATE STUDENTS: 1897-1905.

	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
Students born in the New England States . . . . .	121	143	122	127	107	122	168	132
Students born in other Northern States east of the Mississippi River . . . . .	89	106	119	136	109	108	141	142
Students born in Southern States east of the Mississippi River . . . . .	19	15	17	16	11	14	31	21
Students born in States west of the Mississippi River . . . . .	26	30	34	30	39	39	35	42
Students born in the Dominion of Canada . . . . .	18	25	23	21	22	16	17	19
Students born in other foreign countries . . . . .	20	17	26	23	27	26	35	39
Total number of students	298	336	341	353	315	325	427	395
Percentage of students born in New England . . . . .	41	43	36	36	34	38	39	33
Percentage of students born elsewhere . . . . .	59	57	64	64	66	62	61	67

Mississippi River is larger than it has been for several years past. (Table XI.)

TABLE XI. — RESIDENCES OF GRADUATE STUDENTS: 1901-1905.

	1901-02.	1902-03.	1903-04.	1904-05.
New England States . . . . .	146	167	221	181
Northern States east of the Mississippi River . . . . .	88	88	120	125
Southern States east of the Mississippi River . . . . .	11	12	25	20
States west of the Mississippi River . . . . .	45	40	38	44
Canada . . . . .	19	12	13	10
Foreign countries . . . . .	6	6	10	15
	315	325	427	395

Of the three hundred and ninety-five students in the School in 1904-05, seventy-one, or nearly one-fifth, were married men, whose wives and families for the most part accompanied them to Cambridge. Of these married men, seventeen were holders of fellowships or scholarships, including seven Austin Scholars; fifteen, including one scholarship holder, held instructorships, Austin Teaching Fellowships, or assistantships.

DEGREES.

One hundred and eighty-five men were recommended\* for the higher degrees of Doctor or Master at Commencement, 1905, a larger number than in any previous year except 1904. The details are found in the following table (XII), which gives, in the first and

TABLE XII. — RECOMMENDATIONS FOR DEGREES IN 1903–05.

	1903.	1904.	1905.
I. Graduate Students recommended for A.B. . .	10	3	2
Graduate Students recommended for A.M. . .	97	113	106
Graduate Students recommended for S.M. . .	6	3	4
Graduate Students recommended for Ph.D. .	28	44	38
Graduate Students recommended for S.D. . .	1 142	1 164	0 150
	—	—	—
II. College Seniors recommended for A.M. . . .	1	0	0
College Seniors of a preceding year, recom- mended for A.M. on work done in Senior year	24	36	26
College Juniors of a preceding year, recom- mended for A.M. on work done in Junior year	1	0	0
L.S.S. fourth-year men of a preceding year, recommended for S.M. on work done in L.S.S. fourth year . . . . .	1	0	0
Professional students recommended for A.M. on special courses of study . . . . .	5	15	10
Professional students recommended for Ph.D. on special courses of study . . . . .	0 32	2 53	1 37
	— —	— —	— —
Total of the above list . . . . .	174	217	187
Deduct Graduate Students recommended for A.B. . . . .	10	3	2
	—	—	—
Total number recommended for A.M., S.M., Ph.D., and S.D. . . . .	164	214	185
III. Harvard Bachelors of Arts or Science, not previously graduated elsewhere . . . . .	68	95	78
Harvard Bachelors of Arts or Science, pre- viously graduated elsewhere . . . . .	12	11	3
Students not Harvard Bachelors of Arts or Science . . . . .	84 164	108 214	104 185
	—	—	—

second parts, the number of students in the School recommended by the Faculty of Arts and Sciences for any degree, and the number of other students recommended for the four higher degrees in the three years, 1903, 1904, and 1905. In the third part of the table all

\* The number of persons recommended each year, and that of the men who actually receive the degree, as published in the Annual Catalogue, do not always agree. Usually a few of the candidates recommended do not receive the degree at once. The degree is in these cases ordinarily conferred in a later year, "as of" the year in which the recommendation was made.

persons recommended for the higher degrees are classified with reference to their previous graduation as Bachelors of Arts or of Science.

This table calls for only two or three remarks. Of the men who were recommended for the higher degrees, eighty per cent. were Graduate Students (one hundred and forty-eight), while about six per cent. had completed their work while registered in another graduate department of the University, as students of Law, Medicine, or Divinity. Fourteen per cent. had never been registered in the School or in another graduate department; these were twenty-six men who had completed their work as college Seniors. Hereafter, however, this anomaly will disappear, since the Faculty has passed the regulation that candidates for the degree of Master of Arts must be registered during their candidacy as students either in the Graduate School of Arts and Sciences or in another graduate department of the University.

There has been now for more than seven years a gradual increase in the proportion of non-Harvard men who come up for their degrees, — from forty-four per cent. in 1899 to fifty-six per cent. in 1905.

TABLE XIII.—DIVISIONS AND DEPARTMENTS IN WHICH RECOMMENDATIONS FOR THE HIGHER DEGREES WERE MADE IN 1905.

DIVISION.	DEPARTMENT.	DEGREES.			
		A.M.	S.M.	PH.D.	S.D.
I. Semitic Languages and History . . . . .		1	..	..	..
II. Ancient Languages :					
Indic Philology . . . . .		..	..	1	..
The Classics (Greek, Latin) . . . . .		11	..	5	..
Total in Ancient Languages . . . . .		— 11	— ..	— 6	— ..
III. Modern Languages :					
English . . . . .		22	..	2	..
Germanic Languages and Literatures . . . . .		5	..	1	..
French, and other Romance Languages and Literatures . . . . .		2	..	3	..
In more than one Department . . . . .		3	..	..	..
Total in Modern Languages . . . . .		— 32	— ..	— 6	— ..
IV. History and Political Science :					
History and Government . . . . .		22	..	5	..
Political Economy . . . . .		10	..	3	..
Total in Hist. and Political Sci. . . . .		— 32	— ..	— 8	— ..
V. Philosophy . . . . .		19	.	10	..
[Education . . . . .		3		1]	
VI. The Fine Arts :					
History and Principles of the Fine Arts . . . . .		1	..	..	..
Architecture . . . . .		1	2	..	..
Total in the Fine Arts . . . . .		— 2	— 2	— ..	— ..

DIVISION.	DEPARTMENT.	DEGREES.			
		A.M.	S.M.	PH.D.	S.D.
VII. Music . . . . .		1	..	1	..
VIII. Mathematics . . . . .		1	..	1	..
IX. Engineering . . . . .		1	..	..	..
X. Physics . . . . .		3	1	1	..
XI. Chemistry . . . . .		9	..	3	..
XII. Biology :					
	Botany . . . . .	1	..	1	
	Zoölogy . . . . .	4	1	1	..
	Total in Biology . . . . .	— 5	— 1	— 2	— .
XIII. Geology :					
	Geology and Geography . . . . .	3	..	..	..
	Mineralogy and Petrography . . . . .	..	..	..	..
	Mining and Metallurgy . . . . .	3	..	..	..
	Total in Geology . . . . .	— 6	— ..	— ..	— ..
XIV. Anthropology . . . . .		1	..	..	..
In more than one Division . . . . .		6	..	..	..
Professional Students :					
	Divinity School . . . . .	6	..	1	..
	Law School . . . . .	3	..	..	..
	Medical School . . . . .	1	..	..	..
	Total . . . . .	140	4	39	..

In Table XIII are indicated the Departments or fields of study in which lay the chief work of the successful candidates for the higher degrees. A comparison of this table with Table III, with a view to determining the relation of choices of courses by Graduate Students to the degrees won, might be of interest.

Five of the fourteen Divisions were represented by ten or more candidates : History and Political Science by forty, including eight Doctors ; Philosophy by thirty-nine, including ten Doctors ; Modern Languages by thirty-eight, including six Doctors ; Ancient Languages by seventeen, including six Doctors.

The Divinity School sent up six Masters of Arts and one Doctor. Of nine candidates in the Law School for the degree of Master of Arts, three only were successful.

One hundred and forty-four Masters were recommended in course, one hundred and forty in Arts and four in Science.

The degree of Doctor of Philosophy was conferred upon the thirty-nine men named below : with each name is indicated the special field in which the degree was taken, the candidate's academic history in brief, the subject of his thesis, and his present occupation.

## Philology.

## HENRY LAMAR CROSBY.

Classical Philology. — A.B. (*Univ. of Texas*) 1901, A.M. (*ibid.*) 1902, A.M. (*Harvard Univ.*) 1903. — Res. Gr. Stud., 1902-05.

Thesis: "De Comitorum Graecorum Temporibus quaeritur."

Instructor in Greek, University of Pennsylvania.

## ROBERT ADGAR LAW.

English Philology. — A.B. (*Wofford Coll., S.C.*) 1898, A.M. (*Trinity Coll., N.C.*) 1902, A.M. (*Harvard Univ.*) 1903. — Res. Gr. Stud., 1902-05.

Thesis: "The True Chronicle History of King Leir and his Three Daughters, Gonorill, Ragan, and Cordella."

Instructor in English at this University.

## JOHN LIVINGSTON LOWES.

English Philology. — A.B. (*Washington and Jefferson Coll., Pa.*) 1888, A.M. (*ibid.*) 1891, Gr. (*Western Theol. Seminary, Pa.*) 1894, Ph.D. Honorary (*Washington and Jefferson Coll., Pa.*) 1901, A.M. (*Harvard Univ.*) 1903. — Res. Gr. Stud., 1902-05.

Thesis: "The Prologue to 'The Legend of Good Women,' considered in certain of its Literary Relations."

Professor of English, Swarthmore College.

## ARTHUR STANLEY PEASE.

Classical Philology. — A.B. 1902, A.M. 1903. — Res. Gr. Stud., 1902-05.

Thesis: "De Sancti Hieronymi Commentariolis Tractatibusque in Psalmos Quaestiones Varias."

Rogers Fellow, in Europe.

## TORSTEN PETERSSON.

Classical Philology. — A.B. 1901, A.M. 1902. — Res. Gr. Stud., 1901-02 and 1903-05.

Thesis: "De Epigrammatis Iuliani Aegyptii."

Instructor in Latin, University of California.

## CHARLES BREWSTER RANDOLPH.

Classical Philology. — A.B. (*Wabash Coll., Ind.*) 1896, A.M. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1901-03.

Thesis: "De Mandragora."

Instructor in Greek and Latin, Collegiate Department of Clark University.

## FRANK OTIS REED.

Romance Philology. — A.B. (*Amherst Coll.*) 1899, A.M. (*Harvard Univ.*) 1904. — Res. Gr. Stud., 1903-Mar. 1905.

Thesis: "The History of the Spanish Past Participle compounded with *haber*."

Lecturer, on the Rufus B. Kellogg University Fellowship, Amherst College.

## DAVID BRAINERD SPOONER.

Indic Philology. — A.B. (*Leland Stanford Jr. Univ., Cal.*) 1899. — Non-Res. Stud., 1902-04; Res. Gr. Stud., 1904-05.

Thesis: "A Critical Study of the Scholia of Mallinātha upon Kālidāsa's Lyric Poem entitled the Cloud-Messenger or Megha-Dūta."

Harris Fellow, in Berlin.

## ALBERT MOREY STURTEVANT.

Germanic Philology. — A.B. (*Trinity Coll., Conn.*) 1898, A.B. (*Harvard Univ.*) 1899, A.M. (*ibid.*) 1901. — Res. Gr. Stud., 1898-1901 and 1902-04.

Thesis: "The Development of the Transposed Order in Old High German."

Instructor in German at this University.

## GEORGE WALLACE UMPHREY.

Romance Philology. — A.B. (*Univ. of Toronto, Ont.*) 1899, A.M. (*Harvard Univ.*) 1901. — Res. Gr. Stud., 1900-01 and 1904-05; Non-Res. Stud., 1903-04.

Thesis: "A Study of the Aragonese Dialect, based on a Fourteenth Century Manuscript now Edited for the First Time."

Instructor in Romance Languages, University of Cincinnati.

## CHARLES MARSHALL UNDERWOOD, JR.

Romance Philology. — A.B. 1900, A.M. 1901. — Res. Gr. Stud., 1900-01 and 1903-05.

Thesis: "The Ars Poetica of the Sweet New Style: A Study of the Second Book of Dante's Treatise *De Vulgari Eloquentia* and of its Relation to certain Early Italian Canzoni."

John Harvard Fellow, and Fellow of the French Ministry of Public Instruction, in Paris.

Also, on March 8, 1905: —

## ARTHUR ALEXIS BRYANT.

Classical Philology. — A.B. 1897, A.M. 1898. — Res. Gr. Stud., 1897-1900.

Thesis: "De Atheniensium Vita Privata titulorum ope Atticorum illustrata."

Teacher of Classics, The Country School, Baltimore, Md.

## Philosophy.

## BIRD THOMAS BALDWIN.

Psychology. — S.B. (*Swarthmore Coll., Pa.*) 1900, A.M. (*Harvard Univ.*) 1903. — Res. Gr. Stud., 1902-Mar. 1905.

Thesis: "The Mutual Influence of Different Starting Points on the Series of Associations."

Professor of Psychology and Education, West Chester State Normal School, Pa.

## GEORGE ALEXANDER BARROW.

Philosophy of Religion. — A.B. 1903. — Stud., Harvard Divinity School, 1903-05.

Thesis: "The Religious Experience and Historical Revelation."

Student in the Episcopal Theological School, Cambridge.

## HAROLD CHAPMAN BROWN.

Logic. — A.B. (*Williams Coll.*) 1901, A.M. (*Harvard Univ.*) 1903. — Res. Gr. Stud., 1901-03 and 1904-05.

Thesis: "The Problem of the Kantian Mathematical Antinomies."

Assistant in Philosophy at this University.

## ARTHUR STONE DEWING.

History of Philosophy. — A.B. 1902, A.M. 1903. — Res. Gr. Stud., 1902-03; Non-Res. Stud., 1904-05.

Thesis: "Negation and Intuition in the Philosophy of Schelling."

Assistant in Philosophy at this University.

## CHARLES HUGHES JOHNSTON.

Psychology. — A.B. (*Univ. of North Carolina*) 1898, A.M. (*Harvard Univ.*) 1903. — Res. Gr. Stud., 1902-05.

Thesis: "A Psychological Study of the Mutual Influence of Feelings."

Professor of Pedagogy and Psychology, East Stroudsburg State Normal School, Pa.



**ERNEST NORTHCROFT MERRINGTON.**

Metaphysics. — A.B. (*Univ. of Sydney, Australia*) 1900, A.M. (*ibid.*) 1903. — Res. Gr. Stud., 1904-06.  
 Thesis: "The Metaphysical Problem of Personality."  
 Engaged in teaching in Australia.

**HERBERT ADOLPHUS MILLER.**

Psychology. — A.B. (*Dartmouth Coll., N.H.*) 1899, A.M. (*ibid.*) 1902. — Res. Gr. Stud., 1902-05.  
 Thesis: "The Race Problem and Psychophysics."  
 Assistant Professor of Philosophy and Social Science, Olivet College.

**JARED SPARKS MOORE.**

Metaphysics. — A.B. (*Johns Hopkins Univ., Md.*) 1900, A.M. (*Harvard Univ.*) 1903. — Res. Gr. Stud., 1902-05.  
 Thesis: "The Metaphysical Problem of Relation."  
 Assistant in Philosophy at this University.

**JAMES BISSETT PRATT.**

Philosophy of Religion. — A.B. (*Williams Coll.*) 1898, A.M. (*Harvard Univ.*) 1899. — Res. Gr. Stud., 1898-99 and 1903-05.  
 Thesis: "Historical Illustrations of the Psychology of Religious Belief."  
 Instructor in Philosophy, Williams College.

**EDWARD OCTAVIUS SISSON.**

Education. — S.B. (*Kansas Agricultural Coll.*) 1886, A.B. (*Univ. of Chicago, Ill.*) 1893. — Res. Gr. Stud., 1904-05.  
 Thesis: "The Protestant Religious Instruction in Prussian Schools."  
 Assistant Professor of Education, University of Illinois.

**CLEMENT LESLIE VAUGHAN.**

Psychology. — A.B. (*Acadia Univ., N.S.*) 1898, A.B. (*Harvard Univ.*) 1903. — Res. Gr. Stud., 1903-05.  
 Thesis: "The Motor Power of Optical Stimulations of Different Degrees of Complexity."  
 James Walker Fellow, in Berlin.

**History.****ARTHUR IRVING ANDREWS.**

The Eastern Question. — A.B. (*Broion Univ., R.I.*) 1901. — Res. Gr. Stud., 1902-05.  
 Thesis: "The Campaign of the Emperor Charles V against Tunis and Kheir-ed-Din Barbarossa."  
 Travelling and studying in Europe and Northern Africa.

**HIRAM BINGHAM.**

South American History. — A.B. (*Yale Univ., Conn.*) 1898, A.M. (*Univ. of California*) 1900, A.M. (*Harvard Univ.*) 1901. — Res. Gr. Stud., 1900-02 and 1903-04.  
 Thesis: "The Scots Darien Company."  
 Curator of South American History and Literature in the Harvard College Library.  
 Preceptor at Princeton University.

**WILLIAM STEARNS DAVIS.**

English History. — A.B. 1900, A.M. 1901. — Res. Gr. Stud., 1900-01 and 1903-05.  
 Thesis: "Stephen Gardiner, Bishop of Winchester."  
 Travelling in Europe.

**EMERSON DAVID FITE.**

American History. — A.B. (*Yale Univ., Conn.*) 1897. — Res. Gr. Stud., 1901-05.  
 Thesis: "Prosperity during the Civil War: A Study of Northern Conditions."  
 Austin Teaching Fellow in Government at this University.

**ROLAND GREENE USHER.**

English History. — A.B. 1901, A.M. 1902. — Res. Gr. Stud., 1901-02; Non-Res. Stud., 1902-04.  
 Thesis: "The High Commission and the Opposition to it."  
 Assistant in History at this University.

**Economics.****VANDERVEER CUSTIS.**

Industrial Organization. — A.B. 1901, A.M. 1902. — Res. Gr. Stud., 1902-04.  
 Thesis: "The Forces in Industrial Consolidation."  
 Assistant Professor of Economics, University of Washington.

**WILLIAM HYDE PRICE.**

English Economic History. — A.B. (*Twiss Coll.*) 1901, A.M. (*ibid.*) 1901, A.M. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1901-04; Non-Res. Stud., 1904-05.  
 Thesis: "The English Patents of Monopoly, 1560-1640."  
 Assistant in Economics at this University.

**ALBERT BENEDICT WOLFE.**

Economic Theory. — A.B. 1902, A.M. 1903. — Res. Gr. Stud., 1902-04.  
 Thesis: "The Lodging-House Problem in Boston."  
 Teacher of History, McKinley High School, St. Louis, Mo.

**Music.****LOUIS ADOLPHE COERNE.**

Orchestration. — Gr., *Königliche Academie der Tonkunst, Munich, Germany*, 1898. — Res. Gr. Stud., Feb.-Dec., 1904.  
 Thesis: "The Evolution of Modern Orchestration."  
 Travelling and studying in Europe.

**Mathematics.****WALTER BURTON FORD.**

Analysis. — A.B. 1897, A.M. 1898. — Res. Gr. Stud., 1897-98.  
 Thesis: "On the Problem of Analytic Extension as applied to Functions defined by Power Series."  
 Instructor in Mathematics, Williams College.

**Physics.****HOWARD LANE BLACKWELL.**

Electricity and Light. — A.B. 1899, A.M. 1900. — Res. Gr. Stud., 1899-1900 and 1901-05.  
 Thesis: "Dispersion in Electric Double Refraction."  
 Fellow for Research in Physics at this University.

**Chemistry.****LATHAM CLARKE.**

Organic Chemistry. — s.B. (*Rhode Island Coll.*) 1902, A.M. (*Brown Univ.*) 1903. — Res. Gr. Stud., 1903-05.

Thesis: "Addition Compounds of Dimethylaniline."

Instructor in Chemistry at this University.

**GEORGE SHANNON FORBES.**

Physical Chemistry. — A.B. 1902, A.M. 1904. — Res. Gr. Stud., 1902-05.

Thesis: "Energy Changes Involved in the Dilution of Zinc and Cadmium Amalgams."

Lecturer on Physical Chemistry at this University.

**FREDERICK WILLIAM RUSSE.**

Organic Chemistry. — A.B. 1902, A.M. 1903. — Res. Gr. Stud., 1902-05.

Thesis: "On Tetrabromorthobenzoquinone." Chemist at the Mallinckrodt Works, St. Louis, Mo.

**Biology.****MAULSBY WILLETT BLACKMAN.**

Zoölogy. — A.B. (*Univ. of Kansas*) 1901, A.M. (*ibid.*) 1902. — Res. Gr. Stud., 1904-05.

Thesis: "The Spermatogenesis of *Scolopendra heros*."

Instructor in Biology, Medical School of Western Reserve University.

**AMON BENTON PLOWMAN.**

Botany. — s.B. (*Ohio Wesleyan Univ.*) 1899, A.M. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1901-02 and 1903-05.

Thesis: "The Comparative Anatomy and Phylogeny of the Cyperaceae."

Teacher of Natural Science, Manual Training School, Pittsburg, Kan.

Of the thirty-nine Doctors, thirty-one — or three-fourths of the whole number — are known to be now engaged each in the actual pursuit of his profession. Twenty-four are teachers in colleges or universities, five having the rank of professor or assistant professor; eleven of the twenty-four are in the service of this University (three instructors, one lecturer, one teaching fellow, one fellow for research, five assistants). Six are teaching in secondary schools, including normal schools. One is an industrial chemist. The remaining eight are continuing their studies, seven in Europe, four being travelling fellows.

The degree of Doctor of Philosophy is based on that of Bachelor of Arts, or on an equivalent education. Hence all the Doctors held degrees in Arts (except one, who had no degree at all). Thirty-two were Masters of Arts; two were Bachelors of Arts only; one had two Bachelors' degrees (in Arts and in Science). Twenty-eight were Harvard Masters of Arts. There were sixteen Harvard Bachelors of Arts, and twenty-two Bachelors of Arts of other colleges: thirteen of the Harvard Bachelors had received all their undergraduate training at Harvard. The proportion of Doctors whose undergraduate work was mainly done elsewhere than at Harvard — two-thirds — is about the same as last year.

With respect to the amount of time that had elapsed since the candidates had received their first degrees in Arts or Science, it deserves record that in the case of nineteen candidates six or more years had passed. Of the remaining twenty, five had been out of college five years; eight, four years; six, three years; and one, only, two years.

The period of resident study of the Doctors of Philosophy ranged from one year to five years. Eight candidates were in residence for

one year only; nine for two years; eighteen for three years; three for four years, and one for five years. All of the eight who spent only one year in residence had had one or more years of duly supervised and approved graduate study elsewhere. The Divisions or Departments in which the degree was conferred after one year of resident study were Philosophy (three candidates), Biology, Indic Philology, History, Mathematics, and Music (one each); those after two years were Philosophy (three), Romance Philology and Economics (two), and Chemistry and Classics (one each); those after three years were Philosophy (five), Classics (four), History (three), Chemistry (two), Romance Philology and Botany (with one each); those after four years, History, Economics, and Romance Philology (with one each); the candidate who was five years in residence was a student of Physics.

The average period of residence and study at Harvard for the Doctors of Philosophy of 1905 proves to be a little less than three years. If, however, we take into consideration graduate work done elsewhere by many of the short term candidates, notably by all the one-year men, the period of graduate study mounts up to more than three years.

TABLE XIV. — AGE OF GRADUATE STUDENTS RECOMMENDED FOR THE DEGREES OF MASTER OF ARTS, MASTER OF SCIENCE, AND DOCTOR OF PHILOSOPHY: 1905.\*

	21	22	23	24	25	26	27	28-34	35-39	40 or over	Total.
A.M.'s . . . . .	12	12	16	7	6	7	1	28	6	5	100
S.M.'s . . . . .	..	..	2	..	2	..	..	..	..	..	4
Ph.D.'s . . . . .	..	..	3	1	5	7	5	14	3	..	38

Tables XIV and XV explain themselves. In 1905, sixty-one Graduate Students secured the Master's degree whom we may regard as normal Masters of Arts; *i. e.*, they (like the twenty-six former Seniors in Harvard College) had continued their studies immediately after receiving the Bachelor's degree (or completing the requirements for it), or after an interval of not more than one year. The average age of these men was twenty-three.

\* Men recommended for "as of" degrees are not included.

**TABLE XV.—AGE OF GRADUATE STUDENTS RECOMMENDED FOR THE DEGREE OF DOCTOR OF PHILOSOPHY: 1897-1905.**

	22	23	24	25	26	27	28 or over.	Average age of men 27 or under.	Percentage of men 28 or older.
1897 . . . . .	..	..	3	1	4	2	15	25.5	60
1898 . . . . .	1	..	1	4	2	2	15	25.2	60
1899 . . . . .	1	4	2	3	2	1	8	24.3	38
1900 . . . . .	..	2	3	4	2	6	18	25.4	51
1901 . . . . .	..	..	1	3	5	3	17	25.8	59
1902 . . . . .	..	1	2	3	4	2	16	25.3	57
1903 . . . . .	..	..	2	4	3	3	16	25.6	58
1904 . . . . .	..	..	4	4	7	5	24	26.1	55
1905 . . . . .	..	3	1	5	7	5	17	26	45

The "normal" Doctors should be about three years older. A glance at Table XV shows that their average age was actually twenty-six.

#### FELLOWSHIPS AND SCHOLARSHIPS.

Recommendations for fellowships and scholarships in the Graduate School of Arts and Sciences are made by the Faculty on the nomination of its Committee on Fellowships and other Aids for Graduate Students, of which the Dean of the School is Chairman.

Ninety-four appointments of this class were held by students in the Graduate School during 1904-05,—twenty-eight fellowships and sixty-six scholarships. With the fellowships are included the John Harvard Fellowships, without stipend (two in 1904-05). Fifteen of the fellowships, including one of the John Harvard Fellowships, were held as travelling fellowships by Non-Resident Students, all of whom studied abroad,—in Germany (five), in France (five), in England (three), and in Italy and Greece (one in each country). Thirteen of the fellowships, including one John Harvard Fellowship, and all the scholarships were held by Resident Students.

In the present year (1905-06) appointments have been made to twenty-nine fellowships and to fifty-nine scholarships.

The names of the holders of fellowships for last year and for the current year (with their present occupation and residence) follow.

1904-05.

1905-06.

Harris Fellowship (1868).

ELIJAH SWIFT.

A.B. 1903, A.M. 1904. — Res. Gr. Stud., 1903-04. — Shattuck Scholar, 1903-04. — Student of Mathematics, at Göttingen. Continuing his studies at Göttingen, as Parker Fellow.

DAVID BRAINERD SPOONER.

A.B. (*Leland Stanford Jr. Univ., Cal.*) 1900, PH.D. (*Harvard Univ.*) 1905. — Non-Res. Stud., 1902-04; Res. Gr. Stud., 1904-05. — Travelling Fellow in Indic Philology, 1902-04; Christopher M. Weld Scholar, 1904-05. Student of Indic Philology, at Berlin.

Rogers Fellowships (1869).

CHESTER NOYES GREENOUGH.

A.B. 1898, A.M. 1899, PH.D. (English Philology) 1904. — Res. Gr. Stud., 1898-99 and 1902-04. — Shattuck Scholar, 1902-03; Edward Austin Fellow, 1903-04. — Instructor in English, 1901-02. — Student of English, in London. Instructor in English at this University.

ARTHUR STANLEY PEASE.

(See Edward Austin Fellowships, 1904-05.)

GEORGE RANDALL LEWIS.

A.B. 1902. — Res. Gr. Stud., 1902-04; Non-Res. Stud., 1904-05. — Henry Lee Memorial Fellow, 1903-04. — Student of Economics, in London. Continuing his studies in London, as Parker Fellow.

HERBERT THOMAS POLAND.

(See Edward Austin Fellowships, 1904-05.)

Parker Fellowships (1873).

HAROLD LOOMIS CLEASBY.

A.B. (*Trinity Coll., Conn.*) 1899, A.M. (*ibid.*) 1901, A.M. (*Harvard Univ.*) 1902, PH.D. (Classical Philology) 1904. — Res. Gr. Stud., 1901-04; Non-Res. Stud., 1904-05. — Christopher M. Weld Scholar, 1903-04. — Student of Classical Philology, at Berlin. Instructor in Latin, Amherst College.

GEORGE RANDALL LEWIS.

(See Rogers Fellowships, 1904-05.)

ARTHUR BECKET LAMB.

A.B. (*Tufts Coll.*) 1900, A.M. (*ibid.*) 1900, A.M. (*Harvard Univ.*) 1903, PH.D. (*Tufts Coll.*) 1904, PH.D. (Chemistry) 1904. — Res. Gr. Stud., 1902-04; Non-Res. Stud., 1904-05. — Edward Austin Fellow, 1903-04. — Student of Chemistry, at Leipsic. Instructor in Chemistry at this University.

WALTER JAMES SHEPARD.

A.B. (*Willamette Univ., Ore.*) 1900, A.B. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1903-05. — Austin Teaching Fellow in History, 1903-05. Student of History, at Heidelberg.

TRUMAN MICHELSON.

A.B. 1902, A.M. 1903, PH.D. (Indic Philology) 1904. — Res. Gr. Stud., 1902-04; Non-Res. Stud., 1904-05. — George and Martha Derby Scholar, 1902-03; James Savage Scholar, 1903-04. — Student of Indic Philology, at Leipsic. Instructor in Latin, University of Missouri.

ELIJAH SWIFT.

(See Harris Fellowship, 1904-05.)

1904-05.

1905-06.

John Thornton Kirkland Fellowship (1873).

RICHMOND LAURIN HAWKINS.

A.B. (*Univ. of Missouri*) 1899, A.M. (*ibid.*) 1900, A.B. (*Harvard Univ.*) 1903. — Student of Romance Philology, in Paris. Instructor in Romance Languages at this University.

DEAN PUTNAM LOCKWOOD.

A.B. 1903, A.M. 1904. — Res. Gr. Stud., 1903-05. — Charles Haven Goodwin Scholar, 1903-05. Student of Classical Philology, at Munich.

James Walker Fellowship (1881).

ARTHUR STONE DEWING.

A.B. 1902, A.M. 1903, PH.D. (Philosophy) 1905. — Res. Gr. Stud., 1902-03; Non-Res. Stud., 1904-05. — Assistant in Philosophy, 1903-04. — Student of Philosophy, at Munich. Assistant in Philosophy at this University.

CLEMENT LESLIE VAUGHAN.

A.B. (*Acadia Univ., N.S.*) 1898, A.B. (*Harvard Univ.*) 1903, PH.D. (Philosophy) 1905. — University Scholar, 1903-04; Townsend Scholar, 1904-05. — Assistant in Philosophy, 1904-05. Student of Philosophy, at Berlin.

1904-05.

1905-06.

**John Tyndall Scholarship (1885).**

**JOHN L HOGG.**

*Reappointed.*

A.B. (*Univ. of Toronto, Ont.*) 1899, A.M. (*Harvard Univ.*) 1902, PH.D. (Physics) 1904. — Res. Gr. Stud., 1901-05. — University Scholar, 1901-02; Whiting Fellow, 1902-03. — Student of Physics, at this University.

Instructor in Mathematics at this University.

**PERCY WILLIAMS BRIDGMAN.**

(See Whiting Fellowships, 1904-05.)

**Robert Treat Paine Fellowship (1887).**

**EDWIN DETURCK BECHTEL.**

*Reappointed.*

A.B. 1903, A.M. 1904. — Res. Gr. Stud., 1903-04; Non-Res. Stud., 1904-05. — Student of Social Science in Europe.

Student, Harvard Law School.

**JAMES FORD.**

A.B. 1905. — Res. Gr. Stud., 1904-05.

Student of Social Science at this University.

**Henry Lee Memorial Fellowship (1889).**

**WILLIAM HYDE PRICE.**

A.B. (*Tufts Coll.*) 1901, A.M. (*ibid.*) 1901, A.M. (*Harvard Univ.*) 1902, PH.D. (Economics) 1905. — Res. Gr. Stud., 1901-04; Non-Res. Stud., 1904-05. — Thayer Scholar, 1902-03. — Student of Economics, in London.

Assistant in Economics at this University.

**CHARLES PHILLIPS HUSE.**

A.B. 1904, A.M. 1905. — Res. Gr. Stud., 1904-05. — University Scholar, 1904-05.

Student of Economics at this University.

**Ozias Goodwin Memorial Fellowship (1889).**

**WILLIAM CHAUNCEY RICE.**

A.B. (*Wesleyan Univ., Conn.*) 1901, A.M. (*Yale Univ., Conn.*) 1902. — Res. Gr. Stud., 1902-05. — Thayer Scholar, 1903-04. — Assistant in Government, 1903-05.

Student, Harvard Law School, and Assistant in Government at this University.

**WILLIAM OSCAR SCROGGS.**

S.B. (*Alabama Polytechnic Institute*) 1899, S.M. (*ibid.*) 1900, A.M. (*Harvard Univ.*) 1905. — Res. Gr. Stud., 1904-05. — University Scholar, 1904-05.

Student of History and Government at this University.

**Henry Bromfield Rogers Memorial Fellowship (1889).**

**RAY MADDING MCCONNELL.**

A.B. (*Southern Univ., Ala.*) 1899, S.T.B. (*Vanderbilt Univ., Tenn.*) 1901, A.M. (*Harvard Univ.*) 1902. — Gr. Div. Stud., 1901-03; Non-Res. Stud., 1903-05. — James Walker Fellow, 1903-04. — Student of Philosophy, at Paris.

Graduate Student and Assistant in Philosophy at this University.

(Not assigned.)

**Hemenway Fellowship (1891).**

**VILHJÁLMUR STEFÁNSSON.**

A.B. (*State Univ. of Iowa*) 1903. — Special Div. Stud., 1903-04; Res. Gr. Stud., 1904-05.

Student of Anthropology at this University.

**VILHJÁLMUR STEFÁNSSON.**

*Reappointed.*

**John Harvard Fellowships (1895).**

**ROBERT BELL MICHELL.**

A.B. (*Univ. of Toronto, Ont.*) 1900, A.M. (*Harvard Univ.*) 1901, PH.D. (Romance Philology) 1904. — Res. Gr. Stud., 1900-03; Non-Res. Stud., 1904-05. — Townsend Scholar, 1901-02; Edward Austin Fellow, 1902-03. — Instructor in Romance Languages, 1903-04. — Student of Romance Languages in Paris, and Fellow of the Ministry of Public Instruction of the French Republic.

Instructor in Romance Languages at this University.

**JAMES ALFRED FIELD.**

A.B. 1903. — Res. Gr. Stud., 1903-05. — Assistant in Economics, 1903-04; Austin Teaching Fellow in Economics, 1904-05.

Student of Economics, at Berlin.

1904-05.

WILLIAM HENRY ROEVER.

*Reappointed.*

S.B. (*Washington Univ., Mo.*) 1897, A.M. (*Harvard Univ.*) 1904. — Res. Gr. Stud., 1897-98, 1901-02, and 1903-05. — Shattuck Scholar, 1897-98. — Instructor in Mathematics, 1902-03. — Student of Mathematics, at this University.

Instructor in Mathematics, Mass. Institute of Technology.

1905-06.

BURRITT SAMUEL LACY.

A.B. 1903, A.M. 1904. — Res. Gr. Stud., 1903-05. — Assistant in Chemistry, 1903-05.

Student of Chemistry and Assistant in Chemistry, at this University.

JOHN CHRISTIAN RANSMEIER.

PH.B. (*Northwestern Univ., Ill.*) 1894, A.M. (*Harvard Univ.*) 1898, PH.D. (Germanic Philology) 1901. — Res. Gr. Stud., 1897-1901. — Thayer Scholar, 1898-99; Shattuck Scholar, 1899-1900; Morgan Fellow, 1900-01. — Assistant in German, 1899-1900.

Student of Germanic Philology, at Berlin.

ALEXANDER MACKENZIE THOMPSON.

A.M. (*Queen's Univ., Ont.*) 1902, A.B. (*Harvard Univ.*) 1903, A.M. (*ibid.*) 1904. — Res. Gr. Stud., 1903-05.

Student of Classical Philology, at Paris.

CHARLES MARSHALL UNDERWOOD, JR.

A.B. 1900, A.M. 1901, PH.D. (Romance Philology) 1905. — Res. Gr. Stud., 1900-01 and 1903-05. — Austin Scholar, 1903-04. — Austin Teaching Fellow in Romance Languages, 1900-01 and 1904-05.

Student of Romance Languages, and Fellow of the Ministry of Public Instruction of the French Republic, at Paris.

Whiting Fellowships (1895).

PERCY WILLIAMS BRIDGMAN.

A.B. 1904, A.M. 1905. — Student of Physics, at this University.

Continuing his studies at this University, as John Tyndall Scholar.

HARVEY NATHANIEL DAVIS.

*Reappointed.*

A.B. (*Brown Univ., R.I.*) 1901, A.M. (*ibid.*) 1902, A.M. (*Harvard Univ.*) 1903. — Res. Gr. Stud., 1902-05. — Student of Physics, at this University.

Instructor in Physics, and in Mathematics, at this University.

ALPHEUS WILSON SMITH.

*Reappointed.*

A.B. (*West Virginia Univ.*) 1900, A.M. (*Harvard Univ.*) 1903. — Res. Gr. Stud., 1902-05. — Student of Physics, at this University.

Continuing his studies at this University, as Whiting Fellow.

CONRAD LOUIS BENONI SHUDDMAGEN.

S.B. (*Univ. of Texas*) 1902, S.M. (*ibid.*) 1904. — Res. Gr. Stud., 1904-05. — Thayer Scholar, 1904-05.

Student of Physics at this University.

ALPHEUS WILSON SMITH.

*Reappointed.*

South End House Fellowship (1900).

JOHN DANIELS.

A.B. 1903, A.M. 1904. — Res. Gr. Stud., 1903-05. — Student of Sociology, at this University.

Continuing his studies at this University, as South End House Fellow.

JOHN DANIELS.

*Reappointed.*

Charles Eliot Norton Fellowship (1900).

CHANDLER RATHFON POST.

A.B. 1904, A.M. 1905. — Student of Classical Archaeology in Athens.

Assistant in English, and student of Romance Languages, at this University.

JAMES SAMUEL MARTIN.

A.B. (*Washington Univ., Mo.*) 1904, A.M. (*Harvard Univ.*) 1905. — Res. Gr. Stud., 1904-05.

Student of Classical Archaeology, in Athens.

1904-05.

1905-06.

Edward Austin Fellowships (1900).

MAULSBY WILLETT BLACKMAN.

A.B. (*Univ. of Kansas*) 1901, A.M. (*ibid.*) 1902, PH.D. (Biology) 1905.—Student of Zoölogy, at this University.  
Instructor in Biology, Medical College of Western Reserve University.

ARTHUR STANLEY PEASE.

A.B. 1902, A.M. 1903, PH.D. (Classical Philology) 1905.—Res. Gr. Stud., 1902-05.—Charles Haven Goodwin Scholar, 1902-03.—Student of Classical Philology, at this University.  
Rogers Fellow, in Europe.

HERBERT THOMAS POLAND.

A.B. 1903, A.M. 1904.—Res. Gr. Stud., 1903-05.—Student of English, at this University.  
Rogers Fellow, in Europe.

GEORGE WALLACE UMPHREY.

A.B. (*Univ. of Toronto, Ont.*) 1899, A.M. (*Harvard Univ.*) 1901, PH.D. (Romance Philology) 1905.—Res. Gr. Stud., 1900-01 and 1904-05; Non-Res. Stud., 1903-04.—John Harvard Fellow, 1903-04.—Student of Romance Languages, at this University.  
Instructor in Romance Languages, University of Cincinnati.

ARTHUR MANGUN BANTA.

A.B. (*Indiana Univ.*) 1903, A.M. (*ibid.*) 1904.  
Student of Zoölogy, at this University.

LAWRENCE MARTIN.

A.B. (*Cornell Univ., N. Y.*) 1904.  
Student of Geology at this University.

CLARENCE PERKINS.

A.B. (*Syracuse Univ., N. Y.*) 1901, A.M. (*Harvard Univ.*) 1904.—Res. Gr. Stud., 1903-05.—Thayer Scholar, 1904-05.  
Student of History at this University.

CHARLES IRVING WOOD.

A.B. (*Williams Coll.*) 1903, A.M. (*Harvard Univ.*) 1904.—Res. Gr. Stud., 1903-05.—Shattuck Scholar, 1904-05.  
Student of German at this University.

Nelson Robinson Jr. Fellowship (1902).

CHARLES ROBERT WAIT.

S.B. 1903, S.M. 1904.—Res. Gr. Stud., 1903-04; Non-Res. Stud., 1904-05.—Austin Scholar in Architecture, 1903-04.—Student of Architecture, in Europe.  
Continuing his studies in Europe, as Nelson Robinson Jr. Fellow.

CHARLES ROBERT WAIT.

*Reappointed.*

Fellowship of the Cercle Français de l'Université Harvard (1903).

HENRI BAULIG.

Bach.-ès-lettres (*Univ. of Paris, France*) 1896, Lic.-ès-lettres (*ibid.*) 1900.—Student of Geography, at this University.  
Instructor in French, at this University.

MÉDÉRIC TOURNEUR.

Bach.-ès-lettres (*Univ. of Caen, France*) 1896, Lic.-ès-lettres (*ibid.*) 1900, Diplôme d'études supérieures (*Univ. of Paris, France*) 1902, Agrégé-d'histoire et de géographie (*ibid.*) 1905.  
Student of Ancient History and Archaeology at this University.

Julia Amory Appleton Fellowship (1904).

LEROY PEARL BURNHAM.

S.B. 1902, S.M. 1903.—Res. Gr. Stud., 1902-03; Non-Res. Stud., 1903-05.—Austin Scholar in Architecture, 1902-03.—Nelson Robinson Jr. Fellow, 1903-04.—Student of Architecture, in Paris.  
Continuing his studies in Paris.

HARRY EDWARD WARREN.

S.B. 1904, S.M. 1905.—Res. Gr. Stud., 1904-05.—Austin Scholar in Architecture, 1904-05.  
Student of Architecture, in Rome.

The John Tyndall Scholarship, with a stipend of five hundred dollars, is included in the foregoing list, since though nominally a scholarship it is of the same rank as the fellowships. For the converse reason the George W. Dillaway Fellowship, with a stipend of two hundred dollars, is not included in the list.

The Faculty has long regarded the fellowships as useful for two distinct classes of students: first, for men who have ordinarily received the Doctor's degree, and wish to continue, for a year or two, special studies or researches, before taking up their professional work;



and, secondly, for men of promise, but, from an academical point of view, younger than the former class, whom the stipends of the fellowships will enable to carry on advanced studies, either here or at some other university. Of the twenty-eight fellows in 1904-05, five clearly belong to the former class, all being holders of the Harvard degree of Doctor of Philosophy when they entered upon their fellowships. Of the second class, five took at Harvard the degree of Doctor of Philosophy and one that of Master of Arts at the close of the year. Twelve of the fellows in 1904-05 are continuing their studies, six abroad and six here — all being again holders of fellowships, except two who have entered the Law School. Sixteen are engaged in teaching: five at other universities; eleven are teaching here, seven being instructors and four assistants. Of these eleven about half are continuing their studies also.

The following table (XVI) gives the usual statistics relative to the applications for fellowships and scholarships and the appointments thereto for the three successive years, 1903-04, 1904-05, 1905-06 :—

TABLE XVI. — FELLOWSHIPS AND SCHOLARSHIPS (1903-06).  
1. *Applications and Appointments.*

	1903-04.	1904-05.	1905-06.
Spring applicants for reappointment or promotion . . . . .	42	51	46
Spring applicants for a first appointment . .	202	207	211
Later applicants . . . . .	60 304	58 316	44 301
Appointed to fellowships . . . . .	23	22	21
Appointed to scholarships . . . . .	55	59	54
Appointed instructors, teaching fellows, or assistants . . . . .	23 101	22 103	25 100
Deduct for repetitions . . . . .	3	4	2
	98	99	98
Entered or continued in the Graduate School of Arts and Sciences without receiving any of the above-named appointments . . . .	62	73	38
Entered undergraduate classes of Harvard College . . . . .	0	0	1
Entered other Departments of the University	3 65	2 75	1 40
Applicants who were at the University in the year following their applications . . . .	163	174	138
Applicants not at the University in that year	141	142	163
	304	316	301

2. *Classification of Applicants and Appointees.*

	1903-04.		1904-05.		1905-06.	
	Applicants.	Appointees.	Applicants.	Appointees.	Applicants.	Appointees.
Students of Philology . . . . .	118	24	138	23	132	25
Students of Philosophy, History, or Political Science . . . . .	100	23	92	29	85	21
Students of Mathematics, Physics, and Chemistry . . . . .	52	19	51	17	61	15
Students of Natural History . . . . .	80	9	28	8	25	11
Students of other branches, or unclassified . . . . .	4	3	7	4	8	3
	304	78	316	81	301	75
Students in Graduate School of Arts and Sciences . . . . .	93	41	108	42	99	50
Students in Harvard College . . . . .	42	16	25	6	19	3
Students in other Departments of the University . . . . .	7	2	11	5	3	2
Former students in some Department of the University . . . . .	33	9	23	5	26	2
Persons never previously members of the University . . . . .	129	10	149	23	154	18
	304	78	316	81	301	75
Harvard Bachelors of Arts or Science, not previously graduated elsewhere . . . . .	32	16	32	12	36	16
Harvard Bachelors of Arts or Science, previously graduated elsewhere . . . . .	11	2	13	3	14	3
Graduates of other institutions, not Harvard Bachelors of Arts or Science . . . . .	204	44	219	56	209	50
Undergraduates of Harvard College or Lawrence Scientific School, not already graduated elsewhere . . . . .	36	14	28	9	22	5
Undergraduates of other institutions and other non-graduates . . . . .	21	2	24	2	20	1
	304	78	316	81	301	75

Of the applicants in 1905 for appointments to be held during the current year (1905-06), about forty-four per cent. came to the University or remained in it. Of those who were disappointed, twenty per cent. are nevertheless students of the University in 1905-06; last year this proportion was thirty-four per cent.; in 1903-04, it was thirty-two per cent.; in 1902-03, it was thirty-one per cent. Other universities appear to be appealing more successfully than ever to our proper clientele.

Of the whole number of applicants, one in three was successful, though in a few cases applicants for scholarships or fellowships received instead assistantships or instructorships (including teaching fellowships). The applicants in philology, philosophy, history, and economics were more than twice as numerous as those in science. Of the applicants who received appointments, in philology one in five was successful; in philosophy, history, and economics one in four; in mathematics, physics, and chemistry one in four; and in geology and biology nearly one in two. Of the applicants who had previously been in the School one-half were successful. Of those who had never been in the University one in eight was successful. Of applicants who had not been in the School, but were students in Harvard College or had been students in some other department of the University about one in seven was successful. Of Harvard Bachelors of Arts, more than one in three were successful, while of the large number that held no first degree from Harvard University, about one in four was successful. Statistics continue to show that it is an advantage to the applicant to hold the Harvard degree of Bachelor.

#### INSTRUCTORSHIPS, TEACHING FELLOWSHIPS, AND ASSISTANTSHIPS.

Several members of the School, besides carrying on their studies, serve the University as salaried teachers or assistants under the Faculty of Arts and Sciences, by regular appointment of the Corporation. The amount of their work as students varies from a half-course, which is technically one-eighth of full work, to four courses or more. There were in 1904-05 fifty-four such persons: five of them were Instructors, twenty-one were Austin Teaching Fellows, and twenty-eight were Assistants. In the current year there are (in November, 1905) sixty-nine such persons: twelve Instructors, twenty Austin Teaching Fellows, and thirty-seven Assistants. Besides the twenty Austin Teaching Fellows in the School, there are three in the Lawrence Scientific School, and five others who are not registered at all as students of the University.

Of the three hundred and ninety-five members of the School in 1904-05, one hundred and forty-four — nearly thirty-seven per cent. — received stipends, either as teachers, assistants, fellows, or scholars. (The percentage in 1903-04 was the same; in 1902-03, it was forty-three; in 1901-02, it was forty; in 1900-01, it was thirty-three.) Furthermore, one other member of the School, as well as eleven of these, held paid proctorships, parictal or examination.

## A NEW SCHOLARSHIP.

One new scholarship to which, under certain conditions, members of the School are eligible, was founded in 1904-05.

*Charles Wyman Scholarship.* — Mrs. Sarah Wyman Whitman, of Boston, bequeathed to the College ten thousand dollars, “for the maintenance of a scholarship in History to be known as the Charles Wyman Scholarship,” after the founder’s father. This scholarship, which has a stipend of four hundred dollars, will ordinarily be awarded to an advanced student in History registered in Harvard College, but in the absence of a suitable candidate there the Faculty is authorized to award it to a member of the Graduate School of Arts and Sciences.

The Association of American Universities, which was founded in 1900 for the promotion of so-called “graduate” studies, but has since widened its scope to consider all advanced instruction, met for its sixth annual conference on January 12-14, 1905, at the Johns Hopkins University, Professor Ames, Dean of the Law School, and Professor Carver representing this University. There were papers on “The Organization of Higher Technical Education,” “Co-instruction in Graduate Schools,” and “The Opportunities for Higher Instruction and Research in State Universities.”

The new regulations with reference to the administration of the degree of Master of Arts, by which the supervision of programmes for this degree may be given to the various Divisions and Departments (see Report for 1903-04, p. 165), have abundantly proved the wisdom of their enactment. The programmes for the degree are more rationally arranged and more successfully carried out than ever before, and the increased direct personal supervision exercised over the candidates by their instructors has been fruitful in good results.

Important action with reference to the School was taken by the Corporation and Overseers upon the recommendation of the University Council and of the Faculty of Arts and Sciences, by which the name of the School was changed from “The Graduate School” to “The Graduate School of Arts and Sciences.” The expression “The Graduate School” was not anomalous so long as this School alone required an academic degree for admission; when, however, the Schools of Law, Medicine, and Divinity made a similar requirement, the name became inappropriate, at least in the ordinarily accepted use

of it. In the new name the word "Graduate" is retained to distinguish the School from Harvard College and the Lawrence Scientific School, which are, in a sense, the Undergraduate Schools of Arts and Sciences. If, however, the day should arrive when the term "School" can be used at this University with reference to "Graduate" institutions only, the Graduate School of Arts and Sciences — as has been suggested by others — might well drop its qualifying term and become "The School of Arts and Sciences."

The formal opening meeting of the School for the current year, 1905–06, was held on Thursday evening, October 5, in the Faculty Room. The principal address was given by Professor Toy, on "Ethical Influences in University Life" (printed in the *International Journal of Ethics*, Vol. XVI, January, 1906, pp. 145–157). Briefer addresses were made by Professor Wilhelm Ostwald, of the University of Leipsic, visiting professor at this University, by President Eliot, and by Mr. W. A. Colwell, President of the Graduate Club. The addresses were followed by a reception.

JOHN HENRY WRIGHT, *Dean.*

THE DIVINITY SCHOOL.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — As Acting Dean of the Divinity School I have the honor to present the following report for the year 1904–05.

The work of the year was carried through in accordance with the schedule of courses given on pages 172–174 ; Professor Ropes took the first half-year, and Professor Peabody, the second, as sabbatic semesters. After the appointment of Professor Peabody to lecture in Berlin as the first American representative under the arrangement for academic reciprocity, the present Acting Dean was appointed to serve during his absence.

All of the members of the Faculty of the Divinity School, with the exception of Professor Hale, whose department, Homiletics, is more strictly technical, are now members of the Faculty of Arts and Sciences, offering courses which are open to students in the College and the Graduate School. Students of the Divinity School also attend courses given by members of the Faculty of Arts and Sciences. The interchange of instruction between the two Faculties in 1904–05 was as follows : —

Divinity students taking courses offered only by the Faculty of Arts and Sciences, 1904–05 : —

Semitic . . . . .	2 elections.
Greek . . . . .	1 “
Classical Philology . . . . .	1 “
English . . . . .	2 “
German . . . . .	2 “
Economics . . . . .	7 “
Philosophy . . . . .	25 “
Fine Arts . . . . .	2 “
Anthropology . . . . .	1 “
	<hr/> 43

Non-Divinity students electing courses offered by the Divinity School, 1904–05 : —

Old Testament . . . . .	53 elections.
New Testament . . . . .	28 “
Church History . . . . .	32 “
History of Religions . . . . .	81 “
Theology . . . . .	5 “
Ethics . . . . .	115 “
	<hr/> 314 “

The registration for the year was 43, as against 52 in 1903-04, a decrease of 9 students. It should be noted, however, that this shrinkage was wholly in the class of Special Students, which numbered 7 last year and 16 in 1903-04.

The forty-three students enrolled in the year 1904-05 were distributed as follows : —

Resident Graduates . . . . .	14
Senior Class . . . . .	5
Middle Class . . . . .	6
Junior Class . . . . .	11
Special Students . . . . .	7
Total . . . . .	<u>43</u>

Twenty-five colleges were represented as follows : —

Allegheny College . . . . .	1	University of Maine . . . . .	1
Boston University . . . . .	1	University of Michigan . . . . .	1
Brown University . . . . .	3	Mount Allison University . . . . .	1
University of Buffalo . . . . .	1	Mount Union College . . . . .	1
University of Chicago . . . . .	1	University of North Carolina . . . . .	1
Cornell University . . . . .	1	Ohio Wesleyan University . . . . .	1
Dartmouth College . . . . .	2	University of Paris, France . . . . .	1
DePauw University . . . . .	1	Trinity College, Conn. . . . .	1
Emory College . . . . .	1	Trinity College, N. C. . . . .	1
Eureka College . . . . .	2	Wesleyan University . . . . .	1
Harvard University . . . . .	11	University of Wisconsin . . . . .	1
Hiram College . . . . .	1		<u>39</u>
Iowa State University . . . . .	1	Counted more than once . . . . .	4
Kentucky University . . . . .	1		<u>35</u>

Ten theological seminaries were represented as follows : —

Boston University . . . . .	4
Concordia Theological Seminary . . . . .	1
Crozer Theological Seminary . . . . .	1
Eden Theological Seminary . . . . .	1
McCormick Theological Seminary . . . . .	1
Meadville Theological School . . . . .	2
Nisky Moravian Theological Seminary . . . . .	1
Oberlin College . . . . .	1
Tufts College . . . . .	1
Yale University . . . . .	2
	<u>15</u>
Counted more than once . . . . .	1
	<u>14</u>

Seven members of the School received the degree of S. T. B., six the degree of A. M., and one the degree of Ph.D.

The seventh session of the Summer School of Theology was held from July 5 to July 21, the entire session of forty-five lectures being devoted to the subject of The Bible. The seven sessions of the School have had the following record of attendance:—

	Men.	Women.	Total.
1899 . . . . .	96	9	105
1900 . . . . .	52	2	54
1901 . . . . .	84	5	89
1902 . . . . .	74	4	78
1903 . . . . .	54	4	58
1904 . . . . .	46	1	47
1905 . . . . .	54	7	61

The distribution by denomination, in the case of ministers attending in the seven years, was as follows:—

	Orthodox Congregational.	Unitarian Congregational.	Episcopalian.	Universalist.	Baptist.	Presbyterian.	Disciples.	Methodist.	Free Baptist.	Lutheran.	Christian Connection.	German Reformed.	Moravian.	Evangelical Association.	Dutch Reformed.
1899..	27	17	16	14	5	3	..	..	..	..	..	..	..	..	..
1900..	17	6	■	14	6	..	3	3	..	..	..	..	..	..	..
1901..	28	12	11	14	3	2	..	10	1	1	..	..	..	..	..
1902..	28	7	15	3	5	1	1	6	1	1	..	..	..	..	..
1903..	21	4	10	5	..	5	3	■	1	..	1	1	1	..	..
1904..	13	6	11	1	7	1	..	9	1	..	1	..	..	1	..
1905..	7	4	14	3	5	1	5	9	..	..	1	3	..	..	1
	141	56	80	54	33	13	12	34	4	2	3	4	1	1	1

The following is a list of the Courses of Instruction offered in the School in the year 1904-05. With each course is a statement of the number of students electing it from the Divinity School, the Graduate School, Harvard College, the Lawrence Scientific School, and Radcliffe College. There is appended to the list of regular courses a list of the lectures of the Summer School.



## COURSES OF INSTRUCTION.

## OLD TESTAMENT.

1. Professor LYON. — Hebrew. Davidson's Introductory Hebrew Grammar. Explanation of parts of Genesis and of the Book of Psalms. 2 Div., 11 Col.
2. Professor TOY. — Hebrew (second course). — Syntax. Interpretation of parts of the Prophets and the Poetical Books. Text-criticism. 2 Div.
- 3 *hf.* Dr. HAYNES. — Jewish Aramaic. Marti's Biblisch-Aramäische Grammatik. — Interpretation of parts of Ezra, Daniel, and the Targums. *Half-course.* 1 Div., 2 Col.
- 3a *hf.* Dr. HAYNES. — Classical Aramaic (Syriac). *Half-course.* 3 Div., 1 Col.
4. Professor LYON. — History of Israel, political and social, till the capture of Jerusalem by the Romans. 2 Div., 2 Gr., 29 Col., 1 Sc.
5. Professor G. F. MOORE. — History of pre-Christian Hebrew Literature. 5 Div., 2 Col.
6. Professor TOY. — History of the Hebrew Religion, with comparison of other Semitic religions. 10 Div., 1 Gr., 2 Col.
7. Dr. HAYNES. — Assyrian. 1 Col.
8. Professor LYON. — Assyrian (second course). 1 Col.
20. Research courses. The instructors will arrange and supervise for any properly prepared student a line of special study on such topic as may be agreed on. 1 Div.

## NEW TESTAMENT.

- 2 *<sup>3</sup>hf.* Professor ROPES. — Introduction to the Study of the New Testament. — The teaching of Jesus Christ, and the theological and ethical ideas of the New Testament Writers. *Half-course.* 8 Div., 25 Col.
- 7 *<sup>3</sup>hf.* Professor ROPES. — The Apostolic Age. — Study of the Acts of the Apostles. *Half-course.* 2 Div., 2 Gr., 1 Col.
- 8 *<sup>3</sup>hf.* Professor ROPES. — The Epistles of Paul. Selected portions. *Half-course.* 3 Div.
- 15 *<sup>1</sup>hf.* Professor FENN. — The Theological Method of Jesus and Paul. *Half-course.* 8 Div.
20. Professor ROPES. — Advanced study and research. The instructor will, in the second half-year, arrange and supervise special work of competent advanced students on such topics of New Testament study as they may desire to undertake.

## CHURCH HISTORY.

1. Professor EMERTON. — General Church History to the end of the Seventeenth Century. 2 Div., 2 Gr., 4 Col.
3. Professor EMERTON. — The Era of the Reformation in Europe, from the rise of Italian Humanism to the close of the Council of Trent, 1350 to 1563. 11 Gr., 3 Col.

4. Professor E. C. MOORE. — The Church since the Reformation.  
As full course, 1 Div. As half-course, 2 Div., 2 Gr., 8 Col., 1 Rad.
- 6 *hf.* Professor EMERTON. — Selected Topics from the Canon Law. *Half-course.* 1 Col.
- 7 *<sup>1</sup>hf.* Professor E. C. MOORE. — History of Christian Literature until the Time of Augustine. *Half-course.* 2 Div.
20. Professor EMERTON. — Advanced study and research.

## HISTORY OF RELIGIONS.

2. Professor G. F. MOORE. — History of Religions in Outline.  
As full course, 7 Div., 5 Gr., 22 Col., 1 Sc.  
As half-course, 1 Div., 6 Gr., 46 Col., 1 Sc.

## THEOLOGY.

- 1 *<sup>1</sup>hf.* Professor FENN. — Theism. *Half-course.* 11 Div.
- 2 *<sup>2</sup>hf.* Professor FENN. — Outlines of Systematic Theology. *Half-course.* 11 Div.
- 3 *<sup>1</sup>hf.* Professor FENN. — New England Theology. *Half-course.* 8 Div.
- 5 *<sup>2</sup>hf.* Professor FENN. — The History and Philosophy of Christian Mysticism. *Half-course.* 9 Div.
6. Professor E. C. MOORE. — The History of Christian Thought since Kant, including a discussion of the present state and tendencies of theological thought. 23 Div., 1 Gr., 4 Col.
20. Professor E. C. MOORE. — The Theology of Ritschl and of the Ritschlian School, upon the basis of the works of Ritschl, Herrmann, and Kaftan. 4 Div.

## ETHICS.

- 1 *<sup>1</sup>hf.* Professor PEABODY, assisted by Dr. ROGERS. — Introductory Course. The Ethics of the Social Questions. — The modern social questions: Charity, the Family, Temperance, and various phases of the Labor Question, in the light of ethical theory. — Lectures, special researches, and required reading. *Half-course.* 11 Div., 7 Gr., 99 Col., 5 Sc.
20. Professor PEABODY. — Ethical Seminary. Subject for the year: The Ethics of the New Testament.  
As full course, 6 Div., 1 Gr. As half-course, 8 Div., 2 Gr., 1 Rad.
- 20*b.* Professor PEABODY. — Seminary in the Ethics of the Social Questions. The instructor will direct the special research of competent students in the ethics of the social questions.

## HOMILETICS AND PASTORAL CARE.

- 1 *hf.* Asst. Professor HALE. — The Structure and Analysis of Sermons. *Half-course.* 6 Div.
2. Professors PEABODY, E. C. MOORE, and FENN, and Asst. Professor HALE. — Each student prepares eight sermons during the year, of which some are preached before the class and criticized by students and instructor [in Appleton Chapel], and the rest are criticized by the instructor privately. Students in this course should already have taken Homiletics 1 or its equivalent. The course may be taken a second time as a half-course.  
As full course, 4 Div. As half-course, 6 Div.
- 3 *½hf.* Asst. Professor HALE. — The Minister as Pastor, and the Direction of Church Activities. *Half-course.* 3 Div.
- 5 *½hf.* Asst. Professor HALE. — The Homiletical Use of the Bible. *Half-course.* 3 Div.
20. Asst. Professor HALE. — Homiletical Seminary. (Not counted for a degree.)

## ELOCUTION.

1. Mr. WILLARD. — Voice Training and the Elements of Form in Speaking. (Not counted for a degree.) 8 Div.
- 2 *hf.* Asst. Professor WINTER. — Sermon Delivery, Scripture Reading, Oral Discussion. *Half-course.* 4 Div.

## SUMMER SCHOOL OF THEOLOGY.

- Professor D. G. LYON. — Five lectures: The Hebrew Monarchy from 930 to 586 B.C.
- Professor C. H. TOY. — Five lectures: The Old Testament Prophetic Thought.
- Professor C. C. TORREY. — Five lectures: The Poems of Deutero-Isaiah.
- Professor G. F. MOORE. — Five lectures: Jewish Literature from 200 B.C. to 100 A.D.
- Professor S. SCHECHTER. — Five lectures: Early Rabbinic Theology.
- Professor H. S. NASH. — Five lectures: Alexandrian Theology in Relation to the Christianity of the Apostolic Age. A Study in Comparative Idealism.
- Professor J. H. ROPES. — Five lectures: The Epistles of Paul to the Colossians and Ephesians.
- Professor W. W. FENN. — Five lectures: The Theological Method of Jesus.
- Professor J. W. PLATNER. — Five lectures: Relations of the New Testament Writings to other Early Christian Literature.

There were added to the Library 293 volumes and 19 pamphlets by purchase, 281 volumes and 342 pamphlets by gift. October 1, 1905, there were in the Library 34,909 volumes and 8,851 pamphlets. During the year 941 titles were catalogued in the author

catalogue and 107 titles in the subject catalogue. There were borrowed from the stack for home use 1,017 volumes, from the stack for hall use 463 volumes, from the reserved books for over-night use 610 volumes. Much of the time of the Librarian was given to the preparation of a new edition of the General Catalogue of the School, which appeared in June, 1905.

A bronze Memorial Tablet to Dean Everett has been placed on the north wall of Divinity Chapel at the left of the pulpit. This tablet was procured by a Committee appointed at the meeting of the (Unitarian) Ministers' Institute in 1902, consisting of Rev. Paul Revere Frothingham, Rev. L. C. Cornish, and Rev. Bradley Gilman, who received contributions from many friends and former pupils of Dr. Everett. It is hoped that this tablet with its significant inscription, composed by Mr. Frothingham, will enable students to identify some of the most precious elements in the growing tradition of the School and recognize the voice of him who "being dead, yet speaketh" and will speak for years to come in this School and in many an American pulpit.

W. W. FENN, *Acting Dean.*

## THE LAW SCHOOL.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—I have the honor of presenting my report upon the Law School for the academic year 1904–05.

The table on pages 178, 179 gives the courses of study and instruction during the year, the text-books used, the number of

Year.	Whole No. of Students.	Total of College Graduates.	Harvard Gradu- ates.	Graduates of other Colleges.	Non- Gradu- ates.	Per cent. of College Graduates.	No. of Col- leges rep- resented.
1870–71	165	77	27	50	88	47	27
1871–72	138	70	34	36	68	51	25
1872–73	117	66	34	32	51	56	25
1873–74	141	86	49	37	55	61	25
1874–75	144	82	63	19	62	57	18
1875–76	173	93	60	33	80	54	25
1876–77	199	116	74	42	83	58	30
1877–78	196	121	80	41	75	62	30
1878–79	169	109	71	38	60	64	24
1879–80	177	118	90	28	59	66	20
1880–81	161	112	82	30	49	70	19
1881–82	161	99	66	33	62	61	22
1882–83	138	93	58	35	45	67	32
1883–84	150	105	75	30	45	70	25
1884–85	156	122	85	37	34	78	31
1885–86	158	122	83	39	36	77	29
1886–87	188	143	88	55	45	76	34
1887–88	225	158	102	56	67	70	32
1888–89	225	158	105	53	67	70	32
1889–90	262	189	122	67	73	72	41
1890–91	285	200	135	65	85	70	33
1891–92	370	257	140	117	113	69	48
1892–93	405	266	132	134	139	66	54
1893–94	367	279	129	150	88	76	56
1894–95	413	310	139	171	103	75	74
1895–96	475	380	171	209	95	80	82
1896–97	490	408	186	222	82	83	82
1897–98	551	490	229	261	61	89	77
1898–99	564	503	212	291	61	89	78
1899–00	613	557	236	321	56	91	67
1900–01	655	605	252	353	50	92	83
1901–02	633	584	247	337	49	92	92
1902–03	644	600	241	359	44	93	94
1903–04	743	695	272	423	48	94	111
1904–05	766	711	286	425	55	93	114
1905–06	725	714	295*	419	11	98	118

\* 29 Harvard Seniors who have completed the full College course, but have not received their diplomas, are reckoned as graduates.

exercises per week in each course, and the number of students who offered themselves for examination in each course at the end of the year.

The table on page 176 exhibits the growth of the School during the last thirty-six years, in the number of students, the number and percentage of college graduates, and in the number of colleges represented by their graduates. The figures for the current year will be slightly increased by later entries.

During the twelve months from October 1, 1904, to October 1, 1905, 6,540 bound volumes and 198 pamphlets were added to the library. The library contained, October 1, 1905, about 88,500 volumes and 8,900 pamphlets. The accessions of the past year include 1,300 volumes containing the full printed records of cases decided by the Supreme Court of the United States during the last twenty years. These rare and valuable records, a very welcome addition to the Library, came to the School by the generous gift of Mrs. Horace Gray, the widow of the late Mr. Justice Gray. The continuation of the series of these records for the present is assured by the courtesy of Mr. Justice Holmes, Mr. Justice Gray's successor in the Supreme Court.

The collection of portraits of judges and lawyers has been increased, during the past year, by eight engravings and two etchings. The portraits now hanging on the walls of Austin Hall number 398, namely, 23 oil paintings, 255 engravings, 23 etchings, 72 photographs, 1 water-color, 2 pencil sketches, 19 lithographs, and 3 bas-reliefs. There are also 34 trial scenes and views of law buildings.

It is a pleasure to report that the printing of the first volume of the catalogue of our law books has begun. This volume will contain the titles of all our books upon the law of the United States, England, Scotland, Ireland, and the British Colonies. Volume II will exhibit our collection of books upon the law of other countries.

The Law Faculty takes great comfort in the belief that work upon the much needed new building for the School will begin early in the spring. The final plans, which have been approved by the Committee of Architects, are much more satisfactory than any of the plans previously considered.

Instructors.	Studies and Text-books.	Exercises per week.	Number of students examined.
	<b>First Year.</b>		
Prof. Williston Asst. Prof. Wyman	Contracts. Williston's Cases on Contracts . . . . .	3	281
Prof. Wambaugh . . . . .	Property. Gray's Cases on Property, vols. 1, 2 . . . . .	2	287
Prof. Smith . . . . .	Torts. Cases on Torts: Ames, vol. 1 (2d ed.), Smith, vol. 2 . . . . .	2	278
Prof. Beale . . . . .	Criminal Law and Procedure. Beale's Cases on Criminal Law . . . . .	2	272
Prof. Ames . . . . .	Civil Procedure at Common Law. Ames's Cases on Pleading . . . . .	1	275
	<b>Second Year.</b>		
Prof. Wambaugh . . . . .	Agency. Wambaugh's Cases on Agency . . . . .	2	29
Prof. Brannan . . . . .	Bills of Exchange and Promissory Notes. Ames's Cases on Bills and Notes . .	2	12
Prof. Gray . . . . .	Evidence. Thayer's Cases on Evidence (2d ed.) . . . . .	2	246
Asst. Prof. Warren . . . . .	Jurisdiction and Procedure in Equity. Ames's Cases in Equity Jurisdiction, vol. 1 . . . . .	2	286
Prof. Beale. Asst. Prof. Warren	Property. Gray's Cases on Property, vols. 3, 4 . . . . .	2	241
Prof. Williston . . . . .	Sales of Personal Property. Williston's Cases on Sales . . . . .	2	212
Prof. Ames . . . . .	Trusts. Ames's Cases on Trusts (2d ed.) . . . . .	2	225
Mr. Olson . . . . .	Admiralty. Ames's Cases on Admiralty . . . . .	1	3
Prof. Williston . . . . .	Bankruptcy. Williston's Cases on Bankruptcy . . . . .	1	2
Asst. Prof. Wyman . . . . .	Carriers. Beale and Wyman's Cases on Public Service Companies . . . . .	1	12
Prof. Brannan . . . . .	Damages. Beale's Cases on Damages . . . . .	1	1
Mr. Hollis . . . . .	Insurance. Wambaugh's Cases on Insurance . . . . .	1	4
Prof. Beale . . . . .	International Law. Scott's Cases on International Law . . . . .	1	2
Prof. Smith . . . . .	Persons. Smith's Cases on Persons . . . . .	1	6

### Third Year.

Prof. Beale . . . . .	Conflict of Laws. Beale's Cases on the Conflict of Laws . . . . .	2	170
Prof. Wambaugh . . . . .	Constitutional Law. Thayer's Cases on Constitutional Law . . . . .	1	19
Asst. Prof. Warren . . . . .	Corporations. Smith's Cases on Private Corporations (2d ed.). Smith's Cases on Municipal Corporations . . . . .	2	195
Prof. Brannan . . . . .	Partnership. Ames's Cases on Partnership . . . . .	2	24
Prof. Gray . . . . .	Property. Gray's Cases on Property, vols. 5, 6 . . . . .	2	77
Asst. Prof. Wyman . . . . .	Suretyship and Mortgage. Ames's Cases on Suretyship. Wyman's Cases on Mortgage . . . . .	2	179
Prof. Wambaugh . . . . .	Agency. Wambaugh's Cases on Agency . . . . .	2	18
Prof. Brannan . . . . .	Bills of Exchange and Promissory Notes. Ames's Cases on Bills and Notes . .	2	123
Prof. Gray . . . . .	Evidence. Thayer's Cases on Evidence . . . . .	2	16
Asst. Prof. Warren . . . . .	Jurisdiction and Procedure in Equity. Ames's Cases in Equity Jurisdiction, vol. 1 . . . . .	2	6
Prof. Beale. Asst. Prof. Warren	Property II. Gray's Cases on Property, vols. 3, 4 . . . . .	2	9
Prof. Williston . . . . .	Sales of Personal Property. Williston's Cases on Sales . . . . .	2	18
Prof. Ames . . . . .	Trusts. Ames's Cases on Trusts (2d ed.) . . . . .	2	6
Mr. Olson . . . . .	Admiralty. Ames's Cases on Admiralty . . . . .	1	33
Prof. Williston . . . . .	Bankruptcy. Williston's Cases on Bankruptcy . . . . .	1	47
Asst. Prof. Wyman. . . . .	Carriers. Beale and Wyman's Cases on Public Service Companies . . . . .	1	53
Prof. Brannan . . . . .	Damages. Beale's Cases on Damages . . . . .	1	19
Prof. Ames . . . . .	Equity III. Ames's Cases in Equity Jurisdiction, vol. 2 . . . . .	1	148
Mr. Hollis . . . . .	Insurance. Wambaugh's Cases on Insurance . . . . .	1	24
Prof. Smith . . . . .	Persons. Smith's Cases on Persons . . . . .	1	29



## THE FACULTY OF MEDICINE.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — As Dean of the Faculty of Medicine I have the honor to submit the following report for the academic year 1904—05.

A gift of five thousand dollars from an unknown donor, received through Dr. F. C. Shattuck, for the establishment of a fund, the income of which may be paid to meritorious and needy students, will enable the Committee on Students' Aid to render assistance to students which is oftentimes greatly needed.

Owing to an accumulation of interest, the income of the Lewis and Harriet Hayden Scholarship and the Charles B. Porter Scholarship will each amount to two hundred and twenty-five dollars in the future.

The change that was made last year of placing the graduate and summer courses in charge of one committee has proved to be of great advantage.

During the year 139 men were recommended to the Corporation for degrees as follows : —

Medical School . .	{	For the degree of M.D. (February) . . . .		15
		“ “ “ (June) . . . .		67
		“ “ “ <i>cum laude</i> (June) .		25
Dental School . .	{	For the degree of D.M.D. (February) . . .		2
		“ “ “ (June) . . . .		26
		“ “ “ <i>cum laude</i> (June)		4
Total . . . . .				<hr/> 139

The Committee on the Course of Study and the Committee on Medical Education, acting as a joint committee, continued their work of preparing the plans for the elective fourth year, and their report was submitted in print to the Faculty at the February meeting. After discussion, it was unanimously voted to adopt an entire elective course for the fourth year.

The advocates of this change in the curriculum favored it for two reasons : some thought it would be advisable to allow students who had made up their minds to go into some special, rather than general practice, to prepare themselves in the branches to which they intended to devote their lives ; others thought that students who preferred laboratory to clinical courses should be allowed to select work along those lines. Those who were not in favor of the change opposed it

from the standpoint that four years was not too long a period to be devoted to a required course, and that a student should not be allowed to make any departure from the regular curriculum until he had received his degree.

The choice of studies made by the students for the coming year, therefore, has proved somewhat of a surprise, and the following facts are interesting.

In 1904-05 the fourth class, which numbered sixty-two students, was required, in addition to the regular course, to elect studies amounting to three hours of examination. The fourth class for the coming year, numbering sixty-three students, has been required to elect eight half-courses, representing one thousand hours of work. The following table shows the choice of electives made by the students under the latter plan, in comparison with the required and elective work of the previous year.

	1904-05.	1905-06.
	No. of Students electing courses.	No. of Students electing courses.
Clinical Medicine . . . . .	Required	63
Theory and Practice . . . . .	No elec. offered	46
Surgery . . . . .	Required	61 { Including Surgery & Operative Surgery
Operative Surgery . . . . .	43	
Obstetrics . . . . .	No elec. offered	41 { Including Obstetrics & Operative Obstetrics.
Operative Obstetrics . . . . .	50	
Pediatrics . . . . .	No elec. offered	58
Orthopedics . . . . .	27	32
Gynaecology . . . . .	11	28
Anatomy . . . . .	11	33
Dermatology . . . . .	25	10 (Including Syphilis)
Neurology . . . . .	6	13 (Including Psychiatry)
Pathology . . . . .	No elec. offered	17
Genito-urinary Surgery . . . . .	No elec. offered	9
Neuro-pathology . . . . .	No elec. offered	3
Laryngology . . . . .	No elec. offered	5
Clinical Surgical Pathology . . . . .	2	4
Ophthalmology . . . . .	5	1
Hygiene . . . . .	2	1
Bacteriology . . . . .	1	2
Otology . . . . .	2	
Clinical Chemistry . . . . .	3	
Histology of Nervous System . . . . .	1	
Physiology . . . . .	1	
Surgical Pathology . . . . .	No elec. offered	5

A careful examination of the table just given shows that, with an unlimited choice of subjects for the coming year, the students have practically chosen to continue the same work which was heretofore required. They have not elected specialties and have shown no desire to select laboratory in preference to clinical work. In other words, they have shown that they prefer to continue their preparation for the general practice of their profession.

The establishment of an elective system for the fourth year will greatly increase the amount of work required of the instructor, but it has not been found necessary to make any additional appointments.

WILLIAM L. RICHARDSON, *Dean.*

## THE MEDICAL SCHOOL.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — As Dean of the Medical School I have the honor to submit the following report for the academic year 1904–05.

The Administrative Board was constituted as follows : Drs. W. L. Richardson, J. C. Warren, E. S. Wood, F. C. Shattuck, W. F. Whitney, C. M. Green, C. Harrington, F. B. Mallory, and W. B. Cannon.

Four lectures were given by Ezra R. Thayer, LL.B., on Thursday afternoons in March, on the relation of the medical profession to the law and the courts. These lectures were delivered to the fourth class, but students of other classes, whose work did not conflict, were permitted to attend.

*Building.* — No changes have been made in the building during the past year, and only such repairs as were necessary for its preservation.

*Anatomy.* — The work of original research in the department has been, if anything, more assiduous than usual, but it so happens that very few papers have been published during the school year.

The following represents the work done in the department, and is of more than ordinary importance : —

The size of the articular surfaces of the long bones as characteristic of sex : an anthropological study. By Professor THOMAS DWIGHT. *American Journal of Anatomy*, Vol. IV, December, 1904.

The mutation theory of organic evolution. By Professor THOMAS DWIGHT. *Science*, Vol. XXI, April 7, 1905.

The applied anatomy of the frontal sinus. By Dr. H. P. MOSHER. *The Laryngoscope*, November, 1904.

The mechanism of the normal spine and its relation to scoliosis. By Dr. R. W. LOVETT. *Boston Medical and Surgical Journal*, Vol. CLIII, September 28, 1905.

*Physiology.* — There have been published the following papers containing investigations by the laboratory staff : —

The passage of different food-stuffs from the stomach and through the small intestine. By Assistant Professor W. B. CANNON. *The American Journal of Physiology*, Vol. XII, pp. 387–418.

Observations on the alimentary canal after splanchnic and vagus section. By Assistant Professor W. B. CANNON. *The American Journal of Physiology*, Vol. XIII, p. 22.

The effect of cerebral injuries on the bulbar vasomotor centre. By Professor W. T. PORTER and Dr. T. A. STOREY. *The American Journal of Physiology*, Vol. XIII, pp. 22-23.

The curve of lessening conductivity during increasing tonus of the heart. By Professor W. T. PORTER and Mr. F. H. LAMB. *The American Journal of Physiology*, Vol. XIII, pp. 23-24.

The effect of salt solution on ciliary activity. By Dr. S. S. MAXWELL. *The American Journal of Physiology*, Vol. XIII, pp. 154-170.

Gastro-enterostomy and pyloroplasty. An experimental study by means of the Röntgen rays. By Assistant Professor W. B. CANNON and Dr. J. B. BLAKE. *Annals of Surgery*, May, 1905.

Recent advances in the knowledge of the movements and innervation of the alimentary canal. By Assistant Professor W. B. CANNON. Presented before the American Gastro-enterological Association, July 24, 1905. Published in the *Medical News*, New York, Vol. LXXXVI, pp. 923-929.

Auscultation of the rhythmic sounds produced by the stomach and intestines. By Assistant Professor W. B. CANNON. *The American Journal of Physiology*, Vol. XIV, pp. 299-312.

A quantitative circulation scheme, and a rocking key with metal contacts. By Professor W. T. PORTER. *Science*, Vol. XXI, pp. 752-754.

The following have also been published : —

Physiology at Harvard. By Professor W. T. PORTER. Fourth edition. The University Press, Cambridge, Mass., 1905, 117 pp.

Notes for students of physiology in the Harvard Medical School. By Professor W. T. PORTER. 11 pp.

Professor W. T. Porter and Dr. T. A. Storey have determined that cerebral injuries do not cause exhaustion or "shock" of the vasomotor centre. Professor W. T. Porter, with Messrs. H. K. Marks and J. B. Swift, Jr., has found that "shock" is not produced by the stimulation of nerves proceeding from the abdominal cavity. Professor W. T. Porter, with Messrs. C. H. Lawrence, Jr., and L. H. Newburgh, has found that a rise in the tonus of smooth muscle may completely block the passage of a contraction wave. Mr. F. H. Pratt, under the direction of Professor W. T. Porter, has planned apparatus for a new study of the effect of very rapid stimulation on the contraction of muscle. Mr. G. G. Smith, at the suggestion of Assistant Professor W. B. Cannon, has made observations on the presence of anti-pepsin in the intestines. Assistant

Professor W. B. Cannon attended the meeting of the Medical Association of the Greater City of New York and delivered an address on the "Mechanics of Some Digestive Processes," illustrated by lantern slides.

*Histology and Embryology.* — The usual routine work of instruction has been carried forward, and a number of minor improvements in the course have been introduced. The most important change has been the establishment of a special course in Dental Anatomy and Histology for the benefit of the Dental students. It occupied about six weeks, and proved of so great benefit that the plan will be continued.

The Embryological Collection has been increased by 136 new series of sections of embryos, making a total number of 956. The additions have comprised a number of valuable human embryos, many lizards, and a large number of *Lepidosteus*.

The "Normal plates of the development of the rabbit," forming Part V of Keibel's series of "Normentafeln," has been completed by Professor C. S. Minot and Dr. E. Taylor, and will be published in a few weeks.

The material of the collection has been used during the year for original researches by Dr. J. L. Bremer, of this laboratory, Professor McClure, of Princeton, Professor Edward Fawcett, of Bristol, England, Professor and Mrs. Gage, of Ithaca, and Professor Henry Fox, of Philadelphia.

The following investigations conducted in the laboratory are now in course of publication: —

Development of the lymphatic system in mammals. By Dr. F. T. LEWIS. *American Journal of Anatomy*.

Development of the veins in mammalian limbs. By Dr. F. T. LEWIS. *American Journal of Anatomy*.

Development of the pineal region of the brain in necturus. By Dr. JOHN WARREN. *American Journal of Anatomy*.

The following publications have been issued: —

Genetic interpretations in the domain of anatomy. By Professor C. S. MINOT. *American Journal of Anatomy*, Vol. IV, pp. 243–263.

The implantation of the human ovum in the uterus. By Professor C. S. MINOT. *Transactions of American Gynaecological Society*, 1904, pp. 395–402.

The Harvard embryological collection. By Professor C. S. MINOT. *Journal of Medical Research*, Vol. XIII, pp. 499–522, 1 plate.

It is desired to call attention to the importance of endowing the research work in the laboratory. The large and unique embryological collection which has been gathered offers unequalled opportunities for investigation, and a fund for embryological research is indispensable to enable the School to profit fully by the opportunities now available. Attention may be called especially to the description of the collection published by Professor Minot. Copies of the article may be had upon application.

*Bacteriology.* — Professor H. C. Ernst and Dr. S. B. Wolbach have given much time to the study of the new Ultra-violet apparatus for photomicrography devised by Dr. Köhler of the Zeiss firm, and obtained by the laboratory through the liberality of Mr. W. H. Walker. The theoretical possibilities opened up by this apparatus for the increase of our knowledge of minute structure appear to be great, and it is planned to devote much time to it during the coming year.

The card catalogue of Bacteriological literature, commenced two years ago, has been continued, and its value has been proved in many instances.

Dr. Langdon Frothingham has been steadily working upon the rapid diagnosis of rabies by the presence of certain cell-inclusions known as “Negri bodies” and upon the determination of the nature of these bodies, together with a study of the anatomical changes in the Gasserion Ganglion. He is also investigating an undescribed, infectious, and fatal disease of chickens.

Dr. C. G. Page published the results of an investigation upon the sterilization of catgut by means of iodine. *Boston Medical and Surgical Journal*, February, 1905, p. 161.

Dr. Page has also begun a series of permanent cultures for exhibition, each culture being killed with formaline vapor and sealed with the blow-pipe flame. These cultures were shown, with others, at the Annual Meeting of the Massachusetts Medical Society, in June, 1905, as a part of the “Diagnosis Clinic.”

Dr. F. W. Palfrey has spent much time in the study of the agglutinating reaction of the tubercle bacillus, in regard to which but little work has been done in America. His work has been devoted to (a) the study of tubercle bacilli of different races in cultures adapted to use in this reaction, and (b) testing the reaction in the blood of human beings known to be infected with tuberculosis or in all probability so infected. The results thus far have been strongly against the possibility of establishing a diagnosis by this test.

Dr. F. H. Pratt has spent much time in investigating the occurrence of typhoid bacilli in the feces of patients with typhoid fever, with the aid of the new media of Hiss and Conradi-Drigalski. Different parts of the subject have been investigated, and his work has established the importance of recovering the causative organisms from the infected individual in distinguishing typhoid from paratyphoid fever.

Dr. E. N. Tobey has made the following series of studies: Trypanosomata, especially the undescribed form found in the common newt (*Diemyctulus viridescens*). An attempt to cultivate the varieties obtained is now being made. A new form of gas producing bacillus was isolated from the urine of a case of cystitis and its pathogenesis studied. A study of the cultures of Ameba and typhoid bacilli on the media of Musgrave and Clegg and other self-devised media was made. A study of the pathogenesis and reaction on sugars of a diphtheria bacillus isolated from the middle ear was carried on; and a comparative study of the action on sugars of the diphtheria, pseudo-diphtheria, and xerosis bacilli was made.

*Experimental Pharmacology and Therapeutics.* — The results of an original research was published under the title, "The action of the active principle of Jamaica dogwood." By Drs. M. V. Tyrode and L. Nelson. *Archive Internationales de Pharmacedynamie et de Therapie*, Vol. 14.

*Pathology.* — Drs. W. R. Brinckerhoff and E. E. Tyzzer, the members of the expedition sent to Manila for the investigation of small-pox and the study of tropical diseases, have returned. The work of the expedition has been mainly directed to the experimental study of small-pox. By this work the knowledge of the disease and of the immunity which is produced has been materially advanced. Opportunity was also given for the study of varicella and of certain parasites peculiar to the tropics. From the material brought home Dr. Southard has studied the character of the neuroglia of the monkey and has found it similar in morphology and staining reactions to the human neuroglia. This would render possible the experimental study of nervous affections in monkeys, which could not be carried out on the ordinary laboratory animals, owing to the difference between their nervous tissue and that of man. A full report of the work of the expedition has been prepared and will shortly appear.

A number of specimens illustrating various lesions of disease have been preserved in Kaiserling fluid and permanently mounted in gelatin on glass plates. By this method the natural colors of the



tissues are preserved, and the specimens form a valuable addition to the methods of teaching. These specimens were exhibited at the June meeting of the American Medical Association at Portland, Oregon.

The following papers have been published during the past year by members of the department, and by the men working under them in the pathological laboratories of the School and of the Boston City and Massachusetts General Hospitals : —

A case of diffuse encephalitis showing the pneumococcus. By Drs. W. N. BULLARD and F. R. SIMS. *Boston Medical and Surgical Journal*, December, 1904.

Some newer aspects of the pathology of fat and fatty degeneration. By Dr. H. A. CHRISTIAN. *Johns Hopkins Hospital Bulletin*, 1905, Vol. XVI, 1.

Some further observations on leucocytotoxins. By Drs. H. A. CHRISTIAN and T. F. LEEN. *Boston Medical and Surgical Journal*, Vol. CLII, 1905, No. 14.

Glioma of the nose: report of two congenital cases. By Dr. J. P. CLARK. *American Journal of Medical Sciences*, 1905, Vol. CXXIX, p. 769.

The modern conceptions and methods of medical science. By Professor W. T. COUNCILMAN. Read before the Medical Congress at St. Louis, 1904. *American Medicine*, 1904, Vol. VIII, pp. 718-724.

The pathology and bacteriology of acute meningitis. By Professor W. T. COUNCILMAN. *Albany Medical Annals*, March, 1905.

The principles underlying medical education. By Professor W. T. COUNCILMAN. *Journal of the American Medical Association*, 1905, Vol. XLIV, 1472.

Die Protozoen des Scharlachfiebers. By Dr. C. W. DUVAL. *Virchow's Archiv f. Path. Anat.*, 1905, Bd. 179, 485.

Studies on the pneumococcus. By Drs. C. W. DUVAL and P. A. LEWIS. *Journal of Experimental Medicine*, Vol. VII, 1905.

General septicaemia. (Report of blood cultures on five cases.) By Drs. C. W. DUVAL and P. A. LEWIS. *Journal of Medical Research*, Vol. XIII, 1905.

Flies and tuberculosis. By Dr. F. T. LORD. *Boston Medical and Surgical Journal*, 1905, Vol. CLI, p. 651.

Infections of the respiratory tract with influenza bacilli and other organisms, their clinical and pathological similarity and confusion with tuberculosis. By Dr. F. T. LORD. *Boston Medical and Surgical Journal*, 1905, Vol. CLII, pp. 537 and 574.

A contribution to the classification of tumors. (4 plates.) By Professor F. B. MALLORY. *Journal of Medical Research*, 1905, Vol. XIII, pp. 113-136.

The bacteriology of general peritonitis. By Dr. T. J. MANAHAN. *Boston Medical and Surgical Journal*, 1905, Vol. CLII, p. 346.

Anatomical findings in two cases of Korsakoff's symptom-complex. By Dr. F. R. SIMS. *Journal of Nervous and Mental Diseases*, March, 1905.

Outline of neuropathology. By Dr. E. E. SOUTHARD. Fairbanks & Co., November, 1904.

The neuroglia framework of the cerebellum in cases of marginal sclerosis. By Dr. E. E. SOUTHARD. *Journal of Medical Research*, August, 1905.

A case of glioma of the pineal region. By Dr. E. E. SOUTHARD. *American Journal of Insanity*, Vol. LXI, No. 3, 1905.

A study of acute haemorrhagic encephalitis (*staphylococcus pyogenes aureus*). By Drs. E. E. SOUTHARD and C. W. KEENE. *American Journal of Medical Sciences*, March, 1905.

The bacteriological basis of the surgical technique in wounds associated with tetanus. By Dr. OSCAR RICHARDSON. *Boston Medical and Surgical Journal*, 1905, Vol. CLII, p. 493.

A case of sudden death associated with status lymphaticus. By Dr. OSCAR RICHARDSON. *Boston Medical and Surgical Journal*, 1905, Vol. CLII, p. 280.

Three cases of probable psittacosis. By Drs. H. M. VICKERY and OSCAR RICHARDSON. *Medical News*, 1904, Vol. LXXXV, p. 780.

The life cycle of the organism of dermatitis coccidioides. (3 plates.) By Dr. S. B. WOLBACH. *Journal of Medical Research*, 1904, Vol. XIII, pp. 53-60.

Intracellular fibrils in a malignant tumor of epithelial origin. (2 plates.) By Dr. S. B. WOLBACH. *Journal of Medical Research*, 1905, Vol. XIII, pp. 423-425.

An observation of the occurrence of the bacillus of influenza (*bacterium influenzae*) in pyelonephrosis. By Dr. J. H. WRIGHT. *Boston Medical and Surgical Journal*, 1905, Vol. CLII, p. 497.

The biology of the microörganism of actinomycosis. (Samuel D. Goss Prize Essay.) By Dr. J. H. WRIGHT. *Journal of Medical Research*, 1905, Vol. XIII, p. 349.

*Comparative Pathology.* — During the year there have been no important changes, either in the courses of instruction offered, or in the laboratory investigations. Research work has been carried on uninterruptedly in the pathological laboratory in the Bussey Institution and in the antitoxin and vaccine laboratory of the State.

During the year the following work has matured : —

Degrees of susceptibility to diphtheria toxin among guinea-pigs. Transmission from parents to offspring. By Professor THEOBALD SMITH. *Journal of Medical Research*, 1905, Vol. XIII, pp. 341–348. *Proceedings Society Experimental Biology and Medicine*, February, 1905.

The reaction curve of tubercle bacilli from different sources in bouillon containing different amounts of glycerine. By Professor THEOBALD SMITH. *Journal of Medical Research*, 1905, Vol. XIII, pp. 405–408.

Further observations on the transmission of *Sarcocystis muris* by feeding. By Professor THEOBALD SMITH. *Journal of Medical Research*, 1905, Vol. XIII, p. 429.

Note on the stability of the cultural characters of tubercle bacilli with special reference to the production of capsules. By Professor THEOBALD SMITH. (In press.)

The fermentation tube in the study of anaerobic bacteria. By Professor THEOBALD SMITH, Messrs. H. R. BROWN and E. L. WALKER. (In press.)

The following general papers or addresses were presented by Professor Smith, on solicitation, during the year : —

Medical research, its place in the university medical school. Read before the Harvard Medical Alumni Association, New York City. *Popular Science Monthly*, April, 1905.

Research into the causes and antecedents of disease, its importance to society. Read before the American Social Science Association. *Boston Medical and Surgical Journal*, 1905, Vol. II, p. 6.

The relation of animal life to human diseases. Read before American Public Health Association. *Boston Medical and Surgical Journal*, November, 1905.

As stated in last year's report, the work in this department is greatly hampered for lack of a suitable animal house or stable with facilities for the study of infectious diseases and for making autopsies. Certain important problems relating to the domestic animals cannot be undertaken at all under present conditions, yet they are the ones whose solution may be of great benefit to human medicine.

*Physiological and Pathological Chemistry.* — The teaching in the required course has, during the past year, undergone no fundamental changes. More advanced and research work has been under way than heretofore, and has led to the completion of the following researches : —

The influence of cholic acid upon the excretion of sulphur in the urine. By Dr. C. L. ALSBERG. *The Journal of Medical Research*, Vol. XIII, No. 1.

Protein metabolism in cystinuria. By Drs. C. L. ALSBERG and O. FOLIN. *The American Journal of Physiology*, Vol. XIV, No. 1.

A study of the inorganic metabolism in osteomalacia. By Drs. J. E. GOLDTHWAIT, R. B. OSGOOD, and C. F. PAINTER, and Mr. F. H. McCRUDDEN. *The American Journal of Physiology*, Vol. XIV, No. 5.

Uric acid. By Mr. F. H. McCRUDDEN. 8vo. Usher, Boston.

*Surgery.* — The coördination of the systematic lectures, recitations, demonstrations, and clinical exercises, which was begun in 1903–04, has been continued during the past year with satisfactory results. The required surgical dressership in the surgical out-patient department, which was substituted for the section work, has proved fairly successful.

Research work, under the auspices of the Committee on Surgical Research, has continued throughout the year, as follows: —

Bulletin No. IV of the Division of Surgery was issued in May, 1905, and contained the following papers: —

The technique of gastro-intestinal operations. By Dr. A. H. GOULD.

Observations on the drainage of the peritoneal cavity of cats. By Dr. F. T. MURPHY.

Clinical report of seventy-five cases of arthritis deformans (chronic non-tubercular arthritis). By Dr. F. L. RICHARDSON.

The research involved in the foregoing papers was done in the surgical laboratory, under the direction of Assistant Professor E. H. Nichols. The Bulletin also contained the following papers: “Gastro-enterostomy and Pyloroplasty,” by Assistant Professor W. B. Cannon of the Physiological Laboratory, and Dr. J. B. Blake of the Department of Surgery; and two papers on the “Results of Operation for Cancer of the Mouth and Tongue, with Reports of Hospital Cases,” by Drs. H. A. Lothrop and D. D. Scannell, and Drs. Farrar Cobb and C. C. Simmons.

During the past year, steps have been taken towards establishing a collection of gross specimens and drawings to illustrate the gross pathology of regions of surgical importance. This collection is to be used in the immediate future in giving a course to advanced students and practitioners who intend to become surgeons.

The Third Annual Report of the Caroline Brewer Croft Fund Cancer Commission was completed and published in February, 1905. This report contained the following communications: —

A contribution to the classification of tumors. By Professor F. B. MALLORY.

On the nature of the cell inclusions of cancer. By Dr. R. B. GREENOUGH.

The effects of the Röntgen ray upon cancer. By Drs. R. H. VOSE and W. C. HOWE.

Implantation of tissue and its relation to cancer. By Assistant Professor E. H. NICHOLS.

A permanent organization of the Caroline Brewer Croft Fund Cancer Commission has been secured, Dr. Henry P. Walcott and Dr. A. T. Cabot representing the Corporation of Harvard College, Dr. Henry K. Oliver and Dr. J. Collins Warren representing the Trustees of the Croft Fund. Of this Commission Dr. J. Collins Warren is Chairman, and Dr. R. B. Greenough Secretary. Relations have been established with other cancer commissions, and material has been obtained for the further investigation of the cause of cancer by the study of transplantable tumors of mice, which have been obtained through the kindness of the directors of the cancer laboratories in Buffalo, Copenhagen, London, Paris, and Frankfurt. Dr. E. E. Tyzzer is at present in charge of the details of this investigation.

The following papers have also been written by members of the Division of Surgery : —

The diagnosis and treatment of fracture of the carpal scaphoid and dislocation of the semilunar bone. By Dr. E. A. CODMAN, with Dr. H. M. CHASE. *Annals of Surgery*, March and June, 1905.

The study and surgical anatomy of the small intestine and its mesentery. By Dr. G. H. MONKS. The Mutter Lecture, Philadelphia, December 2, 1904.

*Orthopedic Surgery.* — The work of the department has followed along the lines of previous years, but has been enlarged somewhat in scope. Individual work of the class has been encouraged, in place of the older method of didactic instruction formerly employed. Note-taking, quizzes, and examinations of notes were chiefly used by students who were obliged to attend the clinics.

Investigations have been conducted by the aid of the Proctor Fund, and satisfactory results have been obtained.

The publications of the individual members of the department have been numerous. Most notable among them may be mentioned the work of Dr. Goldthwait on "Non-tuberculous Joint Affections" and "Affections of the Sacro Iliac Articulation," and the valuable paper presented in Berlin before the German Orthopedic Association by Dr. R. W. Lovett, on "The Normal Movements of the Spinal Column."

*Neurology.* — In addition to the regular work of the department, Dr. Taylor offered last spring an optional course of eight lectures to the third and fourth year students. Some doubt was felt as to whether these lectures, which came at the end of the day, would be attended by any considerable number of students. As a matter of fact, about a hundred men were present up to the very last. It may

be of interest to note that those members of the department who were connected with the Massachusetts General Hospital have made an arrangement whereby their publications will be re-issued together once a year, or at intervals, in book form. The first of these issues will soon be published.

*Hygiene.* — The following publications have been made : —

Progress in hygiene. By Assistant Professor CHARLES HARRINGTON. *Boston Medical and Surgical Journal*, May 25, 1905.

An article on preventive treatment for "A Handbook of Practical Treatment." By Assistant Professor CHARLES HARRINGTON. (Edited by JOHN H. MUZZER, M.D., and A. O. J. KELLEY. Now in press.)

*Museum.* — The regular work of the Museum has been carried on during the past year. In view of the approaching change to the new buildings, the additions to the collection have been restricted as far as possible. About two hundred specimens have been added, chiefly in the line of surgical pathology.

Demonstrations in connection with the surgical course have been held more frequently than during previous years, and the specimens have been largely drawn upon for purposes of illustration aside from the regular School teaching.

Donations of surgical instruments have been received from the late Dr. Chadwick and others.

The Scholarships and Fellowships were awarded as follows : —

Joseph Pearson Oliver Scholarship,	W. A. Sawyer, A.B.,	3d Class.
Barringer Scholarship, No. 1,	R. T. Congdon, A.B.,	2d "
Isaac Sweetser Scholarship,	M. J. Shaughnessy, A.B.,	2d "
Claudius M. Jones "	R. H. Goldthwaite, A.B.,	3d "
Hilton "	J. P. Leake, A.B.,	2d "
" "	C. W. Waddell, A.B.,	2d "
Barringer " No. 2,	A. H. Crosbie, A.B.,	3d "
Alfred Hosmer Linder Scholarship,	F. H. Allen, A.B.,	2d "
Eveleth "	D. Gregg, A.B.,	2d "
" "	H. S. Bernstein, A.B.,	1st "
" "	F. H. McCrudden, S.B.,	1st "
Edward Wigglesworth "	C. S. Turner, Ph.B., A.M.,	3d "
Charles B. Porter "	J. H. Wyman, A.B.,	3d "
John Thomson Taylor "	F. G. Barnum, A.B.,	2d "
Lucius F. Billings "	J. L. Huntington, A.B.,	2d "
Orlando W. Doe "	G. S. Amsden, A.B.,	4th "
Charles Pratt Strong "	C. R. Metcalf, A.B.,	3d "
David Williams Cheever "	W. J. C. Sharpe, A.B.,	1st "
Lewis and Harriet Hayden "	E. D. Brown, A.B.,	3d "
John Foster Fund (½)	P. A. Adamian, A.B., D.B.,	3d "
" " " (½)	E. D. Bond, A.B.,	1st "
Cotting Gift,	O. V. Wells, A.B.,	3d "

The George Cheyne Shattuck Fellowship was awarded Henry A. Christian, A.M., M.D., for a casuistic and experimental study of pulmonary embolism.

The Charles Eliot Ware Fellowship was awarded Elmer E. Southard, A.M., M.D., for work relating to the classification of glioma and the comparison of glioma with gliosis.

The John Ware Fellowship was awarded Frederic T. Lewis, A.M., M.D., for a study of the embryological development of blood vessels and of certain nerves. (7th and 9th.)

A Boylston Medical Prize was awarded R. M. Yerkes, Ph.D., for an essay entitled "Auditory tactual reinforcement and inhibition in the frog"; and a similar prize was awarded Louis Nelson, A.B., M.D., for an essay entitled "The action of the active principle of Jamaica dogwood."

The statistics of the School will be found in the following tables:

## COURSES OF INSTRUCTION, 1904-05.

### FIRST YEAR.

Students  
examined.

Anatomy. — Professor T. DWIGHT, Demonstrator WARREN, Assistant FLAGG, Assistant MOSHER, Instructor DAVIS, Assistant BUTLER, Assistant MARCY, Assistant WADSWORTH, Assistant CHEEVER, Assistant MURPHY, Assistant SCANNELL, Assistant ROBINSON.	57
Physiology. — Professor H. P. BOWDITCH, Associate Professor W. T. PORTER, Asst. Professor CANNON, Instructor MAXWELL.	79
Histology and Embryology. — Professor MINOT, Assistant DONOGHUE, Assistant WRIGHT, Instructor BREMER, Instructor LEWIS, Austin Teaching Fellow TAYLOR.	60
Physiological and Pathological Chemistry. — Professor WOOD, Instructor HEWES, Instructor EMERSON, Assistant ALSBERG, Assistant CONNOLLY.	59

### SECOND YEAR.

Bacteriology. — Professor ERNST, Assistant PAGE, Assistant PERRY, Assistant ROBEY, Assistant EVERETT, Assistant BAKER, Austin Teaching Fellow FROTHINGHAM.	63
Pathology and Pathological Anatomy. — Professor COUNCILMAN, Associate Professor MALLORY, Asst. Professor NICHOLS, Instructor WRIGHT, Instructor CHRISTIAN, Assistant MAGRATH, Assistant TYZZER, Assistant BRINCKERHOFF, Instructor SOUTHARD, Assistant KEENE.	67
Comparative Pathology. — Professor T. SMITH, Instructor CHRISTIAN, Assistant MAGRATH, Assistant KEENE.	
Hygiene. — Asst. Professor HARRINGTON, Assistant WALKER.	67
Theory and Practice. — Professor FITZ, Instructor CUTLER, Assistant STONE, Assistant JOSLIN, Assistant WHITE, Assistant BADGER, Assistant PRATT.	

**Clinical Medicine.**—Professor SHATTUCK, Asst. Professor SEARS, Instructor VICKERY, Assistant J. M. JACKSON, Instructor CABOT, Instructor H. JACKSON, Assistant ROBESY, Assistant DENNY.

**Surgery.**—Professor WARREN, Professor RICHARDSON, Professor BURRELL, Asst. Professor NICHOLS, Instructor LOTHROP, Instructor J. B. BLAKE.

### THIRD YEAR.

- Therapeutics.**—Asst. Professor PFAFF, Assistant JORDAN, Instructor TYRODE. 72
- Theory and Practice of Medicine.**—Professor FITZ, Instructor CUTLER, Assistant STONE, Assistant JOSLIN, Assistant WHITE, Assistant BADGER, Assistant PRATT. 71
- Obstetrics.**—Professor W. L. RICHARDSON, Associate Professor C. M. GREEN, Instructor NEWELL, Assistant SWAIN, Assistant FRIEDMAN, Assistant TORBERT. 78
- Otology.**—Professor BLAKE. 68
- Ophthalmology.**—Asst. Professor STANDISH, Assistant JACK, Assistant QUACKENBOSS, Assistant CLAP, Assistant SPALDING, Assistant HASKELL. 66
- Laryngology.**—Clinical Instructor COOLIDGE, Clinical Instructor FARLOW, Assistant COFFIN. 69
- Syphilis.**—Instructor POST, Assistant C. M. SMITH. 70
- Clinical Obstetrics.**—Professor W. L. RICHARDSON, Associate Professor C. M. GREEN, Instructor NEWELL, Assistant SWAIN, Assistant FRIEDMAN, Assistant TORBERT.
- Dermatology.**—Asst. Professor BOWEN. 78
- Diseases of the Nervous System.**—Professor PUTNAM, Assistant WATERMAN. 72
- Pediatrics.**—Professor ROTCH, Asst. Professor MCCOLLOM, Clinical Instructor CRAIGIN, Instructor MORSE, Assistant LADD, Assistant DUNN. 75
- Psychiatry.**—Instructor COWLES. 74
- Gynaecology.**—Asst. Professor DAVENPORT, Assistant STORER, Assistant NEWELL, Assistant YOUNG. 73
- Surgery and Clinical Surgery.**—Professor WARREN, Professor M. H. RICHARDSON, Professor BURRELL, Instructor THORNDIKE, Instructor LOTHROP, Lecturer GAY, Assistant LUND, Assistant FAULKNER, Assistant BALCH, Assistant GREENOUGH, Assistant CRANDON, Instructor PORTER. 68
- Genito-Urinary Surgery.**—Lecturer WATSON, Instructor THORNDIKE.
- Clinical Medicine.**—Professor SHATTUCK, Asst. Professor SEARS, Instructor WITHINGTON, Instructor H. JACKSON.



## FOURTH YEAR.

Clinical Surgery. — Professor J. C. WARREN, Professor M. H. RICHARDSON, Professor BURRELL, Instructor MONKS, Assistant LUND, Assistant MUMFORD, Instructor LOTHROP, Instructor C. A. PORTER, Assistant GREENOUGH, Assistant J. B. BLAKE, Assistant BROOKS, Assistant FAULKNER, Assistant CRANDON.	77
Clinical Medicine. — Professor SHATTUCK, Asst. Professor SEARS, Instructor R. C. CABOT.	78
Ophthalmology. — Assistant Professor STANDISH, Assistant JACK, Assistant CLAP, Assistant QUACKENBOSS, Assistant SPALDING, Assistant HASKELL.	70
Otology. — Professor BLAKE, Assistant HAMMOND, Assistant CROCKETT.	74
Laryngology. — Clinical Instructor DEBLOIS, Clinical Instructor COOLIDGE, Assistant MOSHER.	76
Syphilis. — Instructor POST, Assistant C. M. SMITH.	76
Orthopedics. — Associate Professor BRADFORD, Assistant LOVETT, Assistant GOLDTHWAIT, Assistant BRACKETT, Assistant DANE.	45
Hygiene. — Asst. Professor HARRINGTON, Assistant WALKER.	80
Psychiatry. — Clinical Instructor COWLES, Clinical Instructor LANE.	
Municipal Sanitation. — Lecturer DURGIN.	

*Fourth Year Electives.*

Ophthalmology. — Assistant Professor STANDISH.	5
Otology. — Professor BLAKE, Assistant HAMMOND, Assistant CROCKETT.	2
Dermatology. — Instructor C. J. WHITE.	35
Diseases of the Nervous System. — Professor PUTNAM, Instructor WALTON, Instructor KNAPP.	7
Gynaecology. — Associate Professor C. M. GREEN.	13
Operative Obstetrics. — Associate Professor C. M. GREEN, Instructor NEWELL, Assistant SWAIN, Assistant FRIEDMAN.	57
Operative Surgery. — Professor M. H. RICHARDSON, Instructor MONKS.	42
Orthopedics. — Associate Professor BRADFORD.	31
Clinical Microscopy. — Curator WHITNEY.	2
Clinical Chemistry. — Professor WOOD, Instructor HEWES, Instructor EMERSON.	1
Anatomy. — Demonstrator WARREN, Instructor DAVIS.	11
Histology of the Nervous System. — Professor MINOT, Instructor BREMER, Instructor LEWIS.	1
Physiology. — Associate Professor PORTER.	2
Hygiene. — Asst. Professor HARRINGTON and Assistant WALKER.	2

TABLE I.—GENERAL STATISTICS OF THE SCHOOL.

New matriculants . . . . . 66

The whole number of students in attendance :—

In courses for graduates . . . . . 38  
 Fourth Class . . . . . 67  
 Third Class . . . . . 63  
 Second Class . . . . . 84  
 First Class . . . . . 67  
 Total . . . . . 319

Applicants for Degree (February) . . . . . 15

Applicants for Degree (June) . . . . . 99

Rejected . . . . . 7

Graduated . . . . . 107

Of the 107 students who received the degree of Doctor of Medicine, 25 received the degree *cum laude*.

	SUMMER COURSES.					GRADUATE COURSES.				
	1901.	1902.	1903.	1904.	1905.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
Courses taken . .	161	145	138	177	222	40	20	57	59½	88
Students . . . .	126	130	148	135	173	29	25	41	49	72
Receipts . . . .	\$4275	\$4400	\$5220	\$4942	\$6497	\$1066	\$700	\$1400	\$1446	\$2907

TABLE II.—FINAL EXAMINATIONS.

	1901.			1902.			1903.			1904.			1905.		
	Passed.	Failed.	Total.	Passed.	Failed.	Total.	Passed.	Failed.	Total.	Passed.	Failed.	Total.	Passed.	Failed.	Total.
<b>FIRST CLASS —</b>															
Histology . . . . .	141	24	165	18	7	78	9	5	75	7	4	72	5	6	60
Physiological and Pathological Chemistry	147	31	178	17	12	76	16	2	78	3	3	70	4	5	59
Anatomy . . . . .	143	25	169	15	18	89	20	10	82	12	3	72	4	1	57
Physiology . . . . .	126	52	178	30	13	81	16	33	90	33	34	84	40	19	79
<b>SECOND CLASS:—</b>															
Pathological Anatomy . . . . .	132	7	139	5	17	160	11	15	73	20	4	74	5	9	67
Therapeutics . . . . .	83	60	149	40	68	176	36	39	106	37	.	.	.	.	.
Bacteriology . . . . .	95	21	116	18	19	154	12	9	77	12	3	67	11	10	63
Hygiene . . . . .	.	.	.	.	.	.	.	.	.	.	.	.	4	4	67
<b>THIRD CLASS:—</b>															
Theory and Practice . . . . .	132	8	140	6	10	121	6	6	143	4	1	72	1	4	71
Surgery . . . . .	126	5	131	4	5	115	4	8	140	6	2	67	3	0	63
Obstetrics . . . . .	129	9	136	6	11	122	9	22	143	15	10	78	13	8	78
Pediatrics . . . . .	136	3	138	1	3	123	2	12	140	9	6	76	8	6	75
Dermatology . . . . .	109	30	139	22	19	132	14	16	147	11	10	76	13	2	73
Gynaecology . . . . .	126	7	135	5	6	123	5	16	146	11	7	78	9	3	73
Neurology . . . . .	125	12	137	9	7	123	5	8	147	6	6	79	7	5	72
Therapeutics . . . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	11	72
Clinical Medicine . . . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	6	69
Clinical Surgery . . . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	1	68
Syphilis . . . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	1	70
Ophthalmology . . . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	4	66
Otology . . . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	0	68
Laryngology . . . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	0	68
Psychiatry . . . . .	129	9	138	6	11	127	3	6	142	4	5	76	.	0	74



An examination of Table I shows a very decided increase in the number of Summer and Graduate Courses taken, and in the number of students availing themselves of the instruction offered in these two departments during the past year. In connection with the summer work it is interesting to note that the students in attendance came from twenty-nine different States in the Union, the District of Columbia, Australia, China, and Canada.

WILLIAM L. RICHARDSON, *Dean.*

## THE DENTAL SCHOOL.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — As Dean of the Dental School I have the honor to submit the following report for the academic year 1904-05.

The number of students enrolled was 108, divided as follows : —

Third-year students . . . . .	44
Second-year students . . . . .	38
First-year students . . . . .	26
	<hr/>
	108

Two candidates for the degree who failed to pass all of the requirements in June, 1904, received the degree in February, 1905.

There were thirty-nine candidates for the degree in June, nine of whom failed in the final examinations, leaving a graduating class of thirty, four of whom received the degree *cum laude*.

Instruction was given as follows : —

**Anatomy.** — Professor T. DWIGHT, Demonstrator WARREN, Assistants FLAGG, MOSHER, BUTLER, MARCY, DAVIS, WADSWORTH, CHEEVER, MURPHY, SCANNELL, and ROBINSON. 424 hours.

**Physiology.** — Professor H. P. BOWDITCH, Associate Professor PORTER, Assistant Professor CANNON, Instructor MAXWELL. 348 hours.

**Histology and Embryology.** — Professor MINOT, Assistant DONOGHUE, Instructors BREMER, LEWIS, Austin Teaching Fellow TAYLOR. 252 hours.

**Physiological and Dental Chemistry.** — Austin Teaching Fellow SMITH. 302 hours.

**Bacteriology.** — Professor H. C. ERNST, Instructor HILL, Assistants PAGE, ROBey, PERRY, EVERETT, Austin Teaching Fellow FROTHINGHAM. 160 hours.

**Materia Medica and Therapeutics.** — Professor E. C. BRIGGS, 32 lectures; Assistant RODGERS, 44 recitations.

**Dental Pathology.** — Professor C. A. BRACKETT. 32 lectures.

**Neurology.** — Instructor E. W. TAYLOR. 4 lectures.

**Crown and Bridge Work.** — Assistant Professor COOKE, 32 lectures; Assistant Professor COOKE, Instructors ELDRED, GRANT, 32 clinics.

**Mechanical Dentistry and Orthodontia.** — Professor E. H. SMITH. 32 lectures.

**Orthodontia.** — Professor E. H. SMITH, Instructors BAKER, REOCH. 32 clinics.

**Mechanical Dentistry and Orthodontia, Juniors.** — Instructor BAKER. 10 lectures.

**Mechanical Dentistry.** — Clinical Instructor J. D. DICKINSON. 8 clinical lectures.

**Mechanical Dentistry, laboratory, Seniors.** — Demonstrator CROSS, Instructors ELDRED, HADLEY, PARSONS, GRANT, HAYDEN, CHUTE, ESTABROOKS, SPINNEY, J. W. DICKINSON. 496 hours.

Mechanical Dentistry, laboratory, Juniors.—Demonstrator Cross, Assistant Demonstrators CHASE, CASSIDY. 544 hours.

Mechanical Treatment of Fractured Jaws, Cleft Palates, and other Deformities. — Demonstrator Cross. 15 lectures.

Extracting and Anaesthesia (Demonstrations).—Instructors FARRINGTON, HART, MARSTON, SQUAREBRIGS, O'BRIEN. 477 hours.

Continuous Gum and Porcelain Inlay Work.—Clinical Lecturer STODDARD. 18 lectures and demonstrations; 16 clinics.

Operative Dentistry, Seniors.—Professor POTTER. 32 lectures.

Operative Dentistry, Juniors.—Lecturer BRADLEY. 32 lectures.

Operative Dentistry.—Clinical Instructor WERNER. 13 lectures and demonstrations.

Operative Dentistry and Dental Jurisprudence.—Clinical Lecturer CLAPP, 12 lectures; Instructor STARRATT, clinical assistant.

Operative Dentistry, Samaritan Hospital.—Instructor ROGERS. 32 clinics.

Operative Dentistry, Infirmary, Juniors.—Assistant Demonstrator D. W. DICKINSON, Instructors FURFEY, LITTIG, KING, DAVIS, ESGATE, MCPHERSON, ELLIOTT, WHITEHILL, NAYLOR. 403 hours.

Operative Dentistry, Infirmary, Seniors.—Lecturer BRADLEY, Instructors EDDY, BLAISDELL, PERKINS, PAUL. 624 hours.

Oral Surgery.—Instructor SHUMAN. 6 lectures; 32 clinics.

Surgical Pathology and Surgery.—Lecturer MONKS, 10 lectures and demonstrations; Instructor BLAKE, 5 clinics at the Boston City Hospital.

The work of the School is shown in the following tables :—

OPERATIVE DEPARTMENT.

No. of patients treated . . . . .	6,791
“ treatments of teeth and gums . . . . .	2,163
“ sets of teeth cleansed . . . . .	1,436
“ operations . . . . .	17,735
“ fillings — gold . . . . .	2,520
“ “ amalgam . . . . .	2,216
“ “ cement . . . . .	1,750
“ “ gutta percha . . . . .	2,976
“ porcelain inlays . . . . .	179
“ gold inlays . . . . .	9

SURGICAL CLINICS.

No. of cases of necrosis . . . . .	5
“ “ abscess . . . . .	7
“ “ antrum disease . . . . .	3
“ “ epulis . . . . .	2
“ “ cleft palate . . . . .	2
“ “ cysts . . . . .	2
“ “ ulcerative stomatitis . . . . .	3

## MECHANICAL DENTISTRY.

## SERVICE TO PATIENTS.

No. of sets of artificial teeth . . . . .	190
“ “ “ “ repaired . . . . .	116
“ partial sets of artificial teeth . . . . .	149
“ appliances for fractured jaws . . . . .	44
“ obturators and appliances for cleft palates . . . . .	18
“ plug for antrum . . . . .	1

## PRACTICE WORK.

No. of specimen plates . . . . .	812
“ plates repaired . . . . .	28
“ appliances for fractured jaws . . . . .	22

## ORTHODONTIA.

## SERVICE TO PATIENTS.

No. of patients treated for irregularities of the teeth . . . . .	110
“ appliances . . . . .	211
“ articulated models of regulating cases . . . . .	154

## PRACTICE WORK.

No. of articulated models of regulating cases . . . . .	90
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## CROWN AND BRIDGE WORK.

## SERVICE TO PATIENTS.

No. of crowns and caps . . . . .	209
“ crowns repaired . . . . .	19
“ pieces of bridge work . . . . .	52
“ “ “ repaired . . . . .	1
“ porcelain tips . . . . .	3
“ carved crowns . . . . .	6

## PRACTICE WORK.

No. of crowns and caps . . . . .	151
“ bridges . . . . .	71
“ porcelain inlays . . . . .	132
“ carved teeth models . . . . .	38

During the year several clinics in Operative Dentistry were given on Saturday afternoons by prominent practitioners not connected with the regular teaching staff. These clinics served to demonstrate special methods of operative procedure and treatment. They were well attended and much appreciated by the students.

The summer service to patients was extended and enlarged. The infirmary was opened during the summer months and students were



given an opportunity to practice under the direction of a corps of teachers who volunteered for this service. Special courses in several subjects were given which were attended by advanced students and by men who graduated in June.

In July last the School acquired by purchase a lot of land on the corner of Longwood Avenue and Wigglesworth Street, adjoining the Medical School land. Plans for a building suitable for the needs of the School have been made and a committee is now at work trying to raise a sum of money sufficient to pay the cost of the building and to provide for an endowment.

EUGENE H. SMITH, *Dean*.

## BUSSEY INSTITUTION.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—I respectfully submit the following report on the Bussey Institution for the year 1904–05.

Twenty-three students were registered at the Bussey Institution, and in addition to these professional students of Agriculture and Horticulture there were twelve others who came to Forest Hills from Cambridge on certain days to attend lectures on Horticulture. Hence the whole number of students in attendance was thirty-five. Of the guests, eight were registered at the Graduate School and four at the Lawrence Scientific School.

The degree of Bachelor of Agricultural Science was conferred upon one candidate at Commencement.

Instruction was given throughout the year in Agriculture (including Cattle Breeding, Cattle Feeding, and Dairying), Horticulture, Agricultural Natural History (including Botany as applied more particularly to the determination of useful, harmful, and ornamental plants), Agricultural Chemistry, Chemical Analysis, and Land Surveying, by Messrs. Hersey, Watson, Morse, Paige, Dillingham, Clarke, Robinette, and Storer.

The fitting up of two large rooms, for use more particularly by the instructors in Natural History and Botany, afforded a partial relief from the crowded conditions which have obtained ever since the occupation of some of the best rooms in the Stone Building by employés of the Massachusetts State Board of Health and attachés of the Medical School.

A highly acceptable gift of anatomical models, illustrating points in dairying and cattle breeding, was received from Mr. Augustin Hamilton Parker (A.B. 1897), formerly a student at the Bussey Institution.

Although the school has gained steadily in recent years under the existing arrangements, experience teaches that the number of students might be increased and their progress promoted if financial conditions would but permit the employment of one or two additional instructors so that the course of study in the second year might be made more symmetrical and satisfying. Another great desideratum is the establishment of a loan fund which should enable students in

straitened circumstances to borrow money to pay for their board and lodging while attending the school. Such a fund would be helpful in many ways. As matters now stand, the tuition fees of such students may be remitted on evidence of their mental ability and worthiness, but there is no provision for enabling them to subsist.

F. H. STORER, *Dean.*

## THE LIBRARY.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — I beg to submit this my eighth annual report on the Library, covering the year 1904–05.

It is an unwelcome task, year after year, to dwell first upon the inconveniences and restrictions which prevent the Library from yielding its best service to the University, rather than to chronicle the progress toward more careful organization and more general usefulness which should mark each year's growth. Yet, whatever aspect of the work of the Library is considered, whether it be an improvement in method or a change in aim, a matter of general policy or a detail of service, the same familiar obstacles present themselves, lack of room and lack of means. All I can do is to make the best of the room and the means we have, and, while doing so, keep the Library's needs steadily before the public. For it is plain that the Corporation has at present no resources with which to extend the Library's building on a generous scale or to increase its staff. Our only source of help is to be found in the friends who understand the place that the Harvard Library occupies in the college world and in the world of learning, and who, it is hoped, will insist that the Library shall be enabled to maintain the position it has so long honorably held. Through lack of means to administer and lack of space in which to store and to use its treasures, it is in serious danger of being compelled to restrict its usefulness within a narrower field and to more elementary purposes. Already it is unable to handle the accessions it receives year by year in such a manner as to bring them fully into use.

The need of great collections of books administered on generous principles is sometimes overlooked, for many persons still fail to realize that the library is to students in literature, economics, and history, taking these subjects in the broadest sense, what the laboratory and the museum are to students of science. That is to say, the library collects and preserves the evidence of what man has been and done and thought at different epochs. In fact, except for pictures, statues, buildings, and other products of the fine arts, and some great works of engineering, the printed and written page is the only evidence of this activity that comes down from one generation to another. This mass of evidence, gathered for his use in libraries, the student sifts and examines ; and from it he selects what bears on his

studies, precisely as the naturalist searches for specimens in the field or in the museum, and as the chemist or physicist tests the materials and the laws of nature in his laboratory. This is one kind of service the library renders, a service primarily valuable to the historian. Another service, of equal value to the historian and to the scientist, it renders in keeping both informed of what others are doing in the same field with themselves, thus enabling them to profit by others' experience, and for both it preserves a record of the fundamental facts that have been established by careful observation. To perform this latter service a library must have a wise selection of the best modern treatises on a great variety of subjects, and it must receive currently an abundant supply of periodicals, covering all departments of learning. For efficient service in the other field—the preservation of historical material—recent books are of less significance, except as they reprint earlier contemporary documents, or as they themselves afford evidence of present conditions which will be of value to future students. But old books, reflecting in one way or another the condition of the time when they were written, are of chief importance. Such a collection, when it has outgrown its first beginnings, should not be restricted to a selection of the few works of prime importance. Its value depends largely on its comprehensiveness, and it must include many a book that by itself is almost valueless, but which, placed side by side with other books, both gains value from them and adds to their value.

So extensive is the field opened up by such considerations that, in collecting on this basis, every library must confine itself to a small number of subjects, such as it has special means or special opportunities to cultivate. Among such subjects for this Library are, for example, Folklore and the History of the Ottoman Empire, together with several lesser specialties in which chance or private generosity has already given us strong collections to build upon, such as our collections of Dante, Molière, Milton, Byron, the publications of Halliwell-Phillips, books on the Catacombs, etc. In these limited fields, the Library may wisely collect everything it has the means to buy, or the strength to handle, almost without regard to intrinsic value. In other fields, it must exercise care in its choice of additions and limit the size and character of its collections according to the means it has with which to increase them.

I dwell for a moment on these general considerations, because they illustrate the change which has taken place in twenty-five years in the policy of the Library, and suggest some of the reasons why the Library is now so hard pressed both for shelf-room and for the

support of its staff. Its first aim and its work of deepest influence is still to instruct and inspire the beginner, to whom it opens a new and wider world. For this purpose, a collection of very moderate size suffices. But with its growth, a new responsibility has come, and the Library is now called upon to perform another and very different service in addition. By well directed purchases, it has been greatly strengthened in all departments, and during the last half-dozen years it has also been enabled by the generosity of many friends, each of whom confines his interest to a limited subject, to begin the building up of special collections, such as have been nowhere available before, and which in some cases are already unrivalled anywhere. This same policy is necessarily adopted by other university libraries as well as our own. The present standards of scholarship, and the number of well-equipped students prepared to undertake prolonged investigations in regard to obscure and very special points, make it worth while, as never before, to have extensive collections of material.

A policy such as this is undoubtedly expensive. In the case of a public library which buys a great stock of the latest English and American books, including many copies of those most in demand, and adds thereto a selection of the best current foreign books, the cost per volume of placing these works on its shelves and of cataloguing them will be a very moderate sum. But the classification and cataloguing of the books which a university library buys in building up a special collection is a very different matter. The foundation of such a collection is generally laid in the publications of the 16th and 17th centuries; the books in foreign languages, some of them in what might be called ultra-foreign languages, may far exceed those in English; some will be bulky folios or sets with long-winded titles and complicated methods of numbering; others will be fugitive pamphlets or news sheets, like the innumerable contemporary accounts of battles with the Turks which were scattered over Europe in the 17th century. To buy these and to classify and record them in such a way as to prevent the acquisition of duplicates and to make them readily accessible to the student, requires careful, deliberate work by well-trained experts. The means to acquire such treasures has been generously placed at our disposal in abundant measure; the means to handle them the College has, in most cases, to provide from its own treasury, and in recent years its ability in this respect has been sorely overtaxed.

In 1896-97, the last year of Mr. Winsor's administration, the library spent \$14,980.18 for books, of which \$296.04 was derived

from special gifts; in 1904-05 the library spent \$22,397.46 for books, of which \$2,836.29 was derived from special gifts, an increase of precisely fifty per cent. in the money spent. The increase, almost ten-fold, in the money derived from gifts is an indication of the still larger relative amount expended for books difficult to buy and catalogue. Yet the expenditure for service has only increased a little less than ten per cent. This ten per cent. increase in cost of service represents about the same increase in hours of work, since there has been but little change in the rate of payment. But the fifty per cent. increase in money spent for books does not measure the full increase in the amount of work to be done. In 1896-97 the average accessions of the three years previous had been 10,861 volumes; in 1904-05 the average accessions of the last three years have been 18,636, an increase of 71 per cent. This excessive disproportion between the increase of work to be done and the increase in the force that must do it indicates either increased efficiency in the staff or diminished thoroughness in the work. In fact, both results have occurred. There is certainly an increased efficiency in the working force, for it has been our steady endeavor to promote this and to eliminate every unnecessary element in the processes involved. A still greater improvement could no doubt have been attained if we were not constantly subject to losing well trained assistants who are attracted to other libraries by higher pay. On the other hand, no possible increase in efficiency can keep pace with the increased amount of work, and it is a fact to be lamented that partial and imperfect methods of work have necessarily been adopted in order to prevent the whole library machine from being brought to a standstill. The character of these methods has been described in earlier reports and I need not enter upon the details again. From the nature of the case, such methods have to be applied principally in the catalogue department. The work of the order department cannot be materially lessened; the shelf department cannot do less than to assign every book its true place in the classification and to enter it in the shelf-lists, so that little or no saving can be made here. It is in the catalogue record that nearly the whole saving has to be made, and it is in this department accordingly that the Library has suffered most. Some kind of record, perfect or imperfect, we have of everything received, but arrears of work to be later reëxamined and improved are accumulating at a dangerous rate. Already over 53,000 titles have been passed over in a more or less imperfect manner and must be taken up again in order to make our catalogue what it has always been

our aim to make it — an accurate and comprehensive guide to the contents of the Library.

Every member of the staff, not only in the catalogue department, but in all the other departments, works under a constant and rather wearing pressure, feeling that the work to be done is always beyond what can be accomplished in the time and with the strength available, and this of itself leads almost unavoidably to hasty methods and poor results. Yet no substantial addition to the staff can be made, even if we had the money to pay for more help, because we have no place in which additional persons can work. We have already pushed more than one of our assistants out into the stack, where work is done at serious inconvenience and with constant danger to health from drafts. Further illustrations of the crowded condition of the Library will be found in the pages where I have to report the difficulties incident to shelving the Hohenzollern Collection of German History, the serious increase in the number of shelves which have to bear double rows of books, and the constant labor involved in shifting books in order to find room for new accessions in their proper places.

It is plain that what the Library needs is a generous enlargement of the present building or a new building on the present site, costing, we may expect, from seven hundred and fifty thousand to a million dollars, and at the same time, and not less important, an addition to its endowment fund which would yield at least \$25,000 a year. An addition of \$40,000 could be used to the great advantage of the Library, and would be needed to secure the well trained and expert service which our great collections require if we are to get the best service from them. Failing to obtain this adequate endowment, which up to the present time no one stands ready to bestow upon us, we ought to inquire how our most pressing needs can best be met for the next few years, for it seems impossible that we should longer continue under our present conditions.

So far as I can see, the most economical plan would be to build an extension of the present East stack to the eastward for say fifty feet (the present stack is seventy feet long), with the addition of a one-story or a two-story section along the whole north side of this stack, corresponding to the section on the south side in which the cataloguing rooms and the librarian's office are contained. This would give us shelf-room for some 150,000 more volumes, would permit the enlargement of the Delivery Room, would give additional space for the staff, and some quiet study-rooms for professors and advanced students, besides a small reading-room in which rare books might be kept and used. In this way our chief needs would



be reasonably well met for the present, and further enlargement might be postponed for several years without serious inconvenience. If we are to preserve our present building, and are eventually to remodel and enlarge it, this addition should be of a permanent character; if we are finally to give up our present building and replace it by a new one, the addition, being for temporary use only, should be built as cheaply as is consistent with safety from accident and from fire. In the first case, the cost, I should judge, would be somewhere near a hundred thousand dollars; in the latter case it might be much less. I earnestly hope that before another year passes, it will be found possible to take a distinct step in this direction.

The Catalogue of our English and American Chap-books and of our Broadside Ballads has been completed and is now ready for distribution. This catalogue covers 143 pages and includes nearly 2,500 items. The initial work on the collection was done by Mr. Charles Welsh, a well-known authority on children's books, but the scope of the catalogue was much enlarged after Mr. Welsh's work on it was finished, and the Catalogue owes its present shape mainly to the patient labor of the Assistant Librarian, Mr. Tillinghast, who has taken the greatest pains to insure its completeness and accuracy. As these little books have never been recorded on our card catalogue, the printed list now issued is a fresh contribution to the catalogue of the Library. I hope we may, from time to time, be able to put into print other well-marked separate sections of our catalogue and to this extent relieve the catalogue drawers. We already have printed lists on Angling, British Municipal History, Dante, and Floras, catalogues of the Sumner collection, of the Carlyle collection on Cromwell and Frederick the Great, and of the Treat collection on Ritualism and Doctrinal Theology, and calendars of the Sparks and the Arthur Lee Manuscripts. The next contribution to this catalogue series will be the catalogue of the Molière collection (including Professor Bôcher's library), now in the printer's hands. For the expense of printing these Bibliographical Contributions, the Library enjoys the use of a part of the income of the Richard Manning Hodges Fund, but the necessary editorial work is expensive and, under present conditions, we can properly undertake but little.

The appointment of three honorary Curators in the Library was mentioned in my last report. I have been glad to continue the policy thus inaugurated by recommending to the Corporation the appointment of two others, George Parker Winship, A.M., Librarian of the John Carter Brown Library in Providence, to be Curator of Mexican History, and Chester N. Greenough, Ph.D., to be Curator

of American Literature; and of a third, for one year on salary, Walter Lichtenstein, A.M., to be Curator of the Hohenzollern Collection of German History. Messrs. Winship and Greenough give such time and help as their other duties permit. Mr. Lichtenstein, on the other hand, has been in Germany and Italy since last June and has devoted his whole time to seeking desirable additions for the Hohenzollern Collection. In Italy he is also buying for us books on Venice and Northern Italy from the gift of Mr. Francis Skinner, of Boston, lately received for that purpose. Before returning he will also visit Holland, where he will buy books for the John Lothrop Motley collection on Dutch History which an anonymous friend wishes to establish in this Library. This is the first time that the Library has sent abroad a special agent to buy books, and it will be interesting to see just what are the results. No final statement can be made in regard to this until after Mr. Lichtenstein's return, but it will probably appear that, in spite of the lower prices at which such an agent is able to buy, the net cost of the books will be considerably higher; but that, on the other hand, the Library will have acquired a much greater number of desirable works than it would have been able to obtain in any other manner. The expense of the undertaking is borne by Professor Coolidge.

The accessions to the libraries of the University for the year, and the present extent of each are shown in the following table: —

ACCESSIONS.	Volumes added.	Present extent in	
		Volumes.	Pamphlets.
Gore Hall (College Library) . . . . .	16,635	451,260	304,000
Law School . . . . .	6,540	88,307	8,926
Divinity School . . . . .	574	34,909	8,851
Medical School . . . . .	38	2,465	. .
Dental School . . . . .	103	961	9,000
Bussey Institution . . . . .	150	4,550	. .
Museum of Zoölogy . . . . .	1,093	41,157	35,038
Peabody Museum . . . . .	159	3,297	2,938
Astronomical Observatory . . . . .	281	11,422	24,511
Gray Herbarium . . . . .	239	9,208	7,391
Arnold Arboretum . . . . .	1,429	11,940	. .
Twenty-eight Special Reference Libraries . . .	1,812	40,866	. .
Total . . . . .	29,053		
Deduct, transfers between Gore Hall and Department Libraries . . . . .	271		
Totals . . . . .	28,782	700,842	400,650

The map collection in the College Library contains 23,611 sheets not included in the above enumeration.

The additions to the College Library for the last five years have been as follows : —

ADDITIONS TO COLLEGE LIBRARY.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
Volumes by purchase or exchange .	7,061	7,400	7,731	7,870	7,746
Do. by binding serials . . . . .	1,151	1,359	1,152	1,312	1,760
Do. by binding pamphlets . . . . .	836	610	736	1,104	1,098
Do. by gift . . . . .	4,749	4,648	7,358	12,009	6,031
Total volumes added . . . . .	13,797	14,017	16,977	22,295	16,635
Maps in sheets . . . . .	589	524	1,064	354	2,001
Pamphlets by purchase or exchange .	1,132	1,449	1,950	1,217	1,193
Do. by gift . . . . .	14,235	16,230	13,441	14,259	14,951
Total gifts (vols. and pams.) . . .	18,984	21,914	20,799	26,268	20,982

The number of volumes added falls much below the number of the previous year, but is far above the average yearly increase from 1895 to 1900 (12,800 volumes), or the average of the three years 1900 to 1903 (14,930 volumes).

Dr. Malcolm Storer, the Curator of Coins, reports that the Library has received 105 medals bought with proceeds of the sale of duplicates contained in the Fuller gift of last year; 117 ancient coins from Rev. George P. Knapp, of Harpoot, Turkey, through Mr. B. A. G. Fuller; 413 modern coins from Mr. Charles P. Greenough; medals of Abbott Lawrence, Guizot, President Roosevelt, and Joseph Wharton, and the one commemorating the fiftieth anniversary of the University of Wisconsin — in all, 530 coins, and 112 medals.

Last year the principal gift to be chronicled was the library of Professor Konrad von Maurer, of Munich, presented to us by Assistant Professor A. C. Coolidge. This year I have to record the gift of the smaller but even more precious library of Professor Charles Eliot Norton and the establishment of the Norton Memorial Fund for the purchase of books. The history of these welcome additions to the Library's resources must be briefly stated. When it became known last spring to some of Professor Norton's friends that he would be willing to make an arrangement by which his library should eventually come into the possession of the College, a few of them quickly subscribed the sum necessary to protect his estate from loss through the transfer. Then, in order to give Professor Norton's

many friends and admirers an opportunity to share in raising a permanent memorial of his services to the University, a circular was quietly sent about, proposing that further subscriptions should be made for a book-fund, the income of which should be devoted to the purchase of books for the College Library in 'accordance with Professor Norton's own instructions, these books, together with those from his personal collection, to be provided with a special book-plate bearing his name. The response was immediate and hearty, and on the evening of May 11 a little company gathered at Shady Hill, told Professor Norton of what had been done, and presented to him a dedicatory inscription in the following words:—

TO  
CHARLES ELIOT NORTON  
FROM  
HIS STUDENTS, ASSOCIATES, AND FRIENDS  
IN APPRECIATION  
OF HIS SERVICES TO HARVARD UNIVERSITY  
DURING MANY YEARS  
IN ADMIRATION  
OF HIS LIFE—LONG DEVOTION TO HIGH IDEALS  
IN LETTERS, ART, AND CIVIC DUTY  
IN GRATITUDE  
FOR HIS HOSPITALITY, COUNSEL, FRIENDSHIP  
INSPIRATION

FELICE TE, CHE SÌ PARLI A TUA POSTA!

MAY FIRST, 1905

A handsomely bound volume contains the signatures of those who subscribed to this address, five hundred and eighty-one in number.

I am permitted to print Professor Norton's reply, addressed the next day to Major Henry L. Higginson:—

"SHADY HILL, 12 May, 1905.

"MY DEAR HIGGINSON:—

"The expression which I received last night of the kind feelings of many friends toward me touched me deeply, and, as your name heads the list of those who have united in this testimonial of their regard, I address my thanks to you, and through you to the others who have done me this exceptional honor and given me this great pleasure.

“The form of the testimonial is altogether gratifying to me. I could desire no better memorial than one which may secure the occasional remembrance of my name in connection with the service rendered by the Library of Harvard College to future generations of students.

“In looking back over my life in its relations with the University I recognize as a special good fortune that I had for many years to give instruction in a field in which I had to deal with the highest ideals of men as expressed in the arts. It is to the charm which these ideals exerted on the open and susceptible nature of the youths whom I addressed that I feel that the personal sentiment of which this testimonial is the expression is largely due. But whatever its source I am grateful to my former pupils for this evidence of their regard.

“To the elder friends who have joined in doing me this honor I can only say—I thank you with a gratitude and affection of no recent date, for the utterance of which I am glad to have occasion.

Always, my dear Higginson,

Most sincerely Yours,

CHARLES ELIOT NORTON.”

The sum of \$8,500 has been paid over to the College Treasurer, and a final balance will be transferred in due time.

In regard to the books to be bought with the income, Professor Norton writes me:—

“The moderate distinction of my library, which now forms part of the College Library, and for the increase of which this fund was subscribed, largely consisted in its containing a considerable number of books of special interest. Most of these fall into two classes,—one that of early typography, and of early wood-cut engraving, mostly Italian; the other that of books with interesting associations from having belonged to or from containing the autographs of eminent men, or from being the gift of their authors, or from being first editions. Some rare Americana, and some scarce works on the Fine Arts, especially on Architecture, formed two minor classes.

“It is to the increase of either one of these classes, as opportunity may occur, that, it seems to me, the income of the fund should be devoted. And, I think, that purchases should largely be guided by the principle that one volume of superior interest, however costly, is to be preferred to any number of volumes of inferior interest, however cheap. Quality not quantity should be the rule.”

The subscribers did not expect that Professor Norton's own collection would be immediately transferred to the Library, but Professor Norton himself preferred that the more precious books should be placed here in safe keeping without delay, and about 600 volumes were received in May. The greater part were placed in a

case specially built for them, and all will be kept together as a memorial collection. I have no space to give a detailed description of these interesting and precious volumes, and we have as yet had time to make only the briefest record of them. The general character of the collection Professor Norton has happily expressed in the letter above.

I may add that the collection contains volumes which have formerly belonged to Ben Jonson, Sir Henry Wotton, Lord Fairfax, Isaac Casaubon, Pietro Bembo, Martin Luther, Horace Walpole, Sir Joshua Reynolds, Benjamin West, Thomas Gray, Samuel Johnson, James Boswell and his son, Sir Alexander Boswell, Robert Southey, William Wordsworth, Thomas Campbell, Leigh Hunt, Charles and Mary Lamb, John Sterling, Sainte Beuve, Jeremiah Dummer, Increase Mather, Jeremy Belknap, and George Washington; volumes received as gifts from Ruskin, D. G. Rossetti (a copy of *The Germ*), Clough, Carlyle, Dickens, Matthew Arnold, Cardinal Manning, G. W. Curtis, Longfellow, Lowell, Holmes, and others; some American and English imprints of the highest rarity, such as the Boston edition (1693) of Mather's *Wonders of the Invisible World*, of which not more than one or two other copies are known, Wordsworth's *Evening walk*, 1793, Shelley's *Adonais*, Pisa, 1820, and several rare editions of the *Hypnerotomachia*; also many other early editions of English and American authors; a remarkable collection of early editions of John Donne, with manuscripts of his poems; many Aldine editions of classic authors; early editions of Dante, Petrarch and Boccaccio; and a number of mediaeval manuscripts, including church service books, three manuscripts of Boethius, and texts of Leonardo Aretino, of Peter Lombard's *Sententiae*, Lucan's *Pharsalia*, and Cicero's *Tusculanae quaestiones*.

The number of individual donors, of societies, of government and municipal departments, and of institutions, from which gifts are received is so great that no detailed record of their kindness can ever be made in these reports, but an acknowledgment of their gifts has in every case been sent to them by mail.

From South American governments and officials, and in several cases from the American diplomatic representatives to those governments, many valuable documents, as well as other publications, have been received during the last two years. To various government departments of the Argentine Republic, Paraguay, Uruguay, Chile, Peru, and Mexico we are especially indebted, also to the American Legation at Bogota, to the Bolivian Legation in Washington, to the

Peruvian Consulate in New York, to José S. Decaud, Juan J. Soler, and the Instituto Paraguayo, of Asuncion, Paraguay, to M. V. Ballivian, of La Paz, Bolivia, and to Albert Prado Martinez, Luis Montt, and F. Lumley, of Santiago de Chile. For bringing the Library to the notice of these governments and individuals, we are indebted to Dr. Hiram Bingham, the Curator of South American History.

Relations of exchange have now been established with most of the German universities. During the year ending September 30, 1905, doctors' dissertations and other similar publications were received from the several universities, as follows:—

Berlin . . . . .	90	Greifswald . . . . .	77	Marburg . . . . .	5
Bonn . . . . .	119	Halle . . . . .	133	Münster . . . . .	50
Breslau . . . . .	39	Heidelberg . . . . .	54	Munich . . . . .	93
Erlangen . . . . .	77	Jena . . . . .	106	Rostock . . . . .	297
Freiburg . . . . .	76	Kiel . . . . .	178	Strasburg . . . . .	109
Giessen . . . . .	132	Königsberg . . . . .	82	Tübingen . . . . .	49
Göttingen . . . . .	90	Leipzig . . . . .	189	Würzburg . . . . .	65

Dissertations were also received from a number of other European universities and from many in the United States. Since doctors' theses submitted to our own Faculty are not commonly printed in pamphlet form, we are unable to return to other universities an equivalent in kind. We send in exchange the Bibliographical Contributions of the Library and the serials published by the different departments of the University so far as they are available for this use, but what we receive far exceeds what we can send in return.

To the Imperial German Government we are indebted for a complete set of the Stenographische Berichte of the German Reichsrath from 1867, the date of the formation of the Norddeutscher Bund, to the present day. With this valuable gift comes, in addition, recent volumes of the Berichte of the Prussian Landtag, presented by the presidents of the two houses. The whole comprises 255 volumes and has lately arrived packed in nine cases. These publications are for the legislative bodies to which they relate what the Congressional Record is for Congress and Hansard for the British Parliament. We owe it to the German Ambassador in Washington, who has before manifested his interest in the Hohenzollern Collection in this Library, that the subject was brought to the attention of the German Government. Since the gift has been made known in Germany, several of the provincial legislatures have signified their willingness to present the current or recent volumes of their proceedings or documents, and a shipment of Hohenzollern books, received from our German agent



in November, comprised volumes from the governments of Saxony, Brandenburg, Hannover, Westphalia, Pomerania, East and West Prussia, Hessen-Nassau, Kassel, and Wiesbaden. Publications from Posen, Silesia, and the Rhine Province are expected later.\* It is pleasant to find that the building up here of a great collection of German history meets with such ready appreciation from the several German governments.

Mr. George B. Dorr, of Boston, has sent us from time to time packages of excellent current books, some of which have been laid aside for the library of the Department of Philosophy in Emerson Hall. Mr. F. E. Chase, of Boston, has sent us several bundles of theatrical literature. Mr. Ferris Greenslet has sent us over a hundred volumes of recent American poetry.

Mr. H. N. Gay, of Rome, Curator of Modern Italian History, has continued to send us volumes and pamphlets relating to Italian history, besides spending for us to excellent advantage the modest appropriation made from our funds for books on his subject.

Mr. G. J. Pfeiffer presented over 200 volumes and 100 pamphlets from his library, many of the volumes being early folios. Mr. W. S. Appleton, Jr., sent us 166 volumes and nearly 500 pamphlets from the library of his father, William Sumner Appleton, of the Class of 1860; and Mr. Alfred Bowditch a box of books from the estate of J. Ingersoll Bowditch. The Quarterly Journal of Economics sends us most of the books it receives from publishers for review.

To Professor Henri Cordier, of Paris, the bibliographer of China, we are indebted for some 45 of his own works, and to M. Henri Arctowski, meteorologist on the Belgian Antarctic Expedition, for 29 pamphlets of his own, mainly relating to the results of the Expedition. These gifts are mentioned simply as examples of what the Library is constantly receiving from all parts of the world.

Several interesting manuscripts have been received — a bundle of early commencement or exhibition parts from Mr. Charles P. Bowditch; an autograph letter from Charles Darwin to Dr. George Gulliver, from Mr. William K. Boyd; a manuscript Class-day poem of 1825, which turned out to be by Professor Frederick Henry Hedge, from Mr. William P. Upham, of Newtonville; six volumes of the diary of Waldo Higginson (1834–1858), relating largely to his duties as superintendent of the Lowell Railroad and later to the

\* As this report leaves my hands, word comes that the Austrian Government is sending us, through the Hon. Bellamy Storer, the American Ambassador in Vienna, an extensive series of the Debates of the Austrian Parliament from 1873 to the present day.



affairs of the Arkwright Insurance Company, of which he was president and manager, from his brother, Col. T. W. Higginson, of Cambridge; two letters from President Holyoke, in 1762, to Jonathan Trumbull (Class of 1759) in regard to his delivering the valedictory oration when he should come up for his Master's degree, from Miss Henrietta W. Hubbard and Mr. Grosvenor S. Hubbard, of New York.

Gifts of money for the purchase of books have amounted to \$3,930. Mr. Lawrence S. Butler, '98, of New York, Mr. Harold J. Coolidge, '92, of Boston, Mr. William B. Cutting, Jr., '00, of New York, Mr. James Loeb, '88, of New York, Mr. E. S. Mullins, '93, of New York, Mrs. G. A. Nickerson, of Brookline, Mr. William Phillips, '00, of Boston, and Mr. John Harvey Treat, '62, of Lawrence, have continued their gifts of former years for books on Paris, China, Florence, Labor Papers, Folklore, London, and the Catacombs, respectively.

Other gifts have been as follows:—

Winthrop Ames, '95, of North Easton, Mass., \$500 for books on the Theatre.

Mrs. J. C. Bancroft, \$250 for books on Japan, to be repeated for a number of years.

Ellis Loring Dresel, '87, of Boston, \$50 for German Drama (the first of five annual gifts).

Hon. George Duncan, of Boston, \$50 for books on Scottish History.

Francis Skinner, '62, of Boston, \$1000 for books on Venice and Northern Italy.

Lucius C. Tuckerman, '97, of Boston, \$50 for books on Mexico (the first of five annual gifts).

A. C. White, '02, of New York, \$250 for additions to the Dante Collection or for other books at the discretion of the Librarian.

Horace E. Ware, '67, of Boston, \$25 for books on Folklore.

J. S. Ames, '01, of North Easton, \$100, and Hollis H. Hunnewell, '90, of Wellesley, \$25, for books from the Rowfant Library.

Professor Coolidge's gifts for books have amounted to \$579.62, and, in addition to this, 896 volumes have been received from him for the Hohenzollern Collection.

An anonymous donor has communicated his intention of increasing our strength in Dutch History by presenting books to be known as the John Lothrop Motley Collection.

A few other gifts will be found mentioned in the Treasurer's Report.

## SPECIAL REFERENCE LIBRARIES.

The present extent of these libraries is as follows :—

SPECIAL REFERENCE LIBRARIES.	Perma- nent.	On Deposit.	Totals.
1. Chemical Lab. <i>Boylston Hall</i> . . . . .	851	1,027	1,878
2. Physical Lab. <i>Jefferson Phys. Lab.</i> . . . . .	53	369	422
3. Botanical Lab. <i>University Museum</i> . . . . .	589	124	713
4. Geological Lab. <i>Do.</i> . . . .	124	. .	124
5. Mineralogical Lab. <i>Do.</i> . . . .	536	231	767
6. Phys. Geography Lab. <i>Do.</i> . . . .	342	226	568
7. Zoölogical Lab. <i>Do.</i> . . . .	278	. .	278
8. Classics. <i>Harvard Hall 3</i> . . . . .	3,867	148	4,015
9. History. <i>Harvard Hall R. R.</i> . . . . .	2,926	17	2,943
10. United States History. <i>Harvard Hall R. R.</i> . .	890	8	898
11. Political Economy. <i>Do.</i> . .	1,294	1	1,295
12. Social Questions. <i>Do.</i> . .	1,158	6	1,164
13. Child Memorial (English). <i>Warren House</i> . . .	4,525	90	4,615
14. Lowell Memorial (Romance). <i>Do.</i> . . .	1,511	6	1,517
15. German. <i>Do.</i> . . .	1,283	. .	1,283
16. French. <i>Do.</i> . . .	2,547	. .	2,547
17. Sanskrit. <i>Do.</i> . . .	921	23	944
18. Semitic. <i>Semitic Museum</i> . . . . .	1,397	. .	1,397
19. Mathematics. <i>Sever 22</i> . . . . .	577	80	657
20. Mining and Metallurgy. <i>Rotch Laboratory</i> . . .	46	17	63
21. Engineering. <i>Pierce Hall</i> . . . . .	6,435	523	6,958
22. Music. <i>Holden Chapel</i> . . . . .	438	. .	438
23. Philosophy (Psychol. Lab.). <i>Dane Hall</i> . . . .	707	43	750
24. Education. <i>Lawrence Hall</i> . . . . .	5,390	. .	5,390
25. Fine Arts (incl. Gray and Randall Coll.). <i>Fogg Museum</i> . . . . .	945	. .	945
26. Architecture. <i>Robinson Hall</i> . . . . .	1,000	13	1,013
27. Preachers' Library. <i>Wadsworth House</i> . . . .	95	. .	95
28. The Study. <i>Phillips Brooks House</i> . . . . .	59	. .	59
29. Social Service Committee. <i>Phillips Brooks House</i>	82	. .	82
Totals . . . . .	40,866	2,952	43,818

1,814 volumes have been added to these special libraries in the course of the year, the largest additions being in Classics, 107; History, 344; Social Questions, 261; Engineering, 180; and Education, 453.

The Social Questions library has received valuable additions of books, reports, diagrams, plates, etc., from the German Commissioner to the St. Louis Exhibition, which will be incorporated with its collection when that is removed to Emerson Hall. Next year the library of the Department of Philosophy will be the largest gainer.

Mr. R. C. Robbins, '92, of Boston, provides the means by which a comprehensive and well selected reference library in Philosophy, including metaphysics, ethics, the philosophy of religion, logic, and aesthetics, is now being brought together which will be placed in Emerson Hall as soon as that building is ready for occupancy.

Last year, in order to economize, the Warren House libraries were closed in the evening. A gift of \$75 from Dr. K. G. T. Webster made it possible to open these libraries in the evening from April 1 to the close of the term. No large number of students use these libraries in the evening, but those who do prize the privilege very highly.

USE OF BOOKS IN THE COLLEGE LIBRARY.

The following table shows the use of books at Gore Hall in 1904-05 as compared with previous years : —

USE OF BOOKS.	1898-99.	1899-00.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
1. Books lent . . . . .	63,005	63,712	63,673	58,443	63,183	66,851	65,506
2. Used in the building . (Recorded use only.)	25,595	23,715	24,180	22,583	24,924	23,111	26,565
Totals . . . . .	88,600	87,427	87,853	*81,026	88,107	89,962	92,071
3. Over-night use of Har- vard Hall Reading- room . . . . .	12,046	13,460	13,566	13,594	13,164	12,644	14,268

Of the constant use of the reserved books in the reading-room, and of the collections of reference books, periodicals, and United States documents, freely accessible to all, no record is possible. The use of the reading-room has, however, increased so much in the last few years that it has become necessary to add a second attendant at the desk, besides the page. A page is also now generally needed in the evening in addition to the single attendant then on duty.

The books shelved in the reading-room, together with those in the various special reference libraries in Harvard Hall, Warren House, and elsewhere, amount altogether to over 67,000 volumes to which direct access can be had by all students to whom they are of value. In addition the library of the Harvard Union now offers to its members over 7,000 books, mainly literature, biography, history, travel, and sport.

\* The decline in the figures for this year is probably to be ascribed to errors in the statistics.

The extent of these open reading-room collections and their growth is shown in the following table : —

OPEN COLLECTIONS.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
Bound Periodicals . . . . .	3,140	3,210	3,266	3,341	3,516
Reference Books . . . . .	4,235	4,393	4,471	4,645	4,685
Reserved Books . . . . .	10,557	10,141	10,398	10,514	10,904
U. S. Documents . . . . .	4,698	4,389	4,523	4,300	4,481
Totals . . . . .	22,630	22,133	22,658	22,800	23,586

The increase in the number of books reserved is mainly due to the opening of new courses in history and government last year, requiring over 300 volumes. Additional volumes for History 1, with its 385 members, were also put out to supplement the collection in the History Reading-room in Harvard Hall.

Cards of admission to different sections of the book-stack continue to be given, on recommendation of an instructor, to all advanced students who need to go directly to the shelves for purposes of investigation in connection with their work. Such students have the same facilities for the examination and study of all the resources of the Library, in their chosen departments, that the officers of instruction enjoy. The use of these cards of admission to the book-stack is shown in the following table : —

ADMISSION TO THE BOOK-STACK.	1897-98.	1898-99.	1899-00.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
History . . . . .	51	78	112	81	90	118	92	122
Science . . . . .	33	43	30	36	37	45	38	28
Art and Archaeology (including Music) . . . . .	34	38	33	33	55	46	42	57
Literature . . . . .	90	90	85	74	80	125	144	107
Classics . . . . .	52	60	70	58	70	73	62	57
Philosophy . . . . .	11	19	19	22	27	31	22	18
Theology . . . . .	3	5	1	1	14	2	9	8
Economics and Sociology . . . . .	9	12	13	13	16	33	26	38
Education . . . . .	2	8	4	7	4	25	10	11
Geography . . . . .	14	2	3	9	15	6	7	5
Publ. of Learned Societies . . . . .	..	..	..	16	8	7	6	5
Total cards given . . . . .	299	355	370	350	416	511	458	456
Total individuals admitted . . . . .	..	279	320	257	301	366	315	354
Total times of use . . . . .	5,750	5,826	6,898	6,067	5,551	6,244	6,413	7,172

The number of individuals admitted is less than the number of cards given out, because the same person often receives permission to use different parts of the book-stack.

The number of students thus admitted is really more than we can find room for, and inconvenience frequently results. As the number of advanced students at Radcliffe increases, the requests for their admission to the stack increase also. We have granted these requests, so far as possible, since the Radcliffe library is not expected to satisfy demands of this kind.

The whole number of Harvard students registered at the Library as borrowers has increased from 2,104 ten years ago to 3,232 in 1904-05. To this number is to be added 364 officers (not including Austin Teaching Fellows and Assistants who are also registered as students) and 983 other persons, including students in the Episcopal Theological and New Church Schools, persons and institutions to whom the privileges of the Library have been granted temporarily, members of the families of former officers of the University, ministers settled in Old Cambridge, and so forth, making 4,579 names carried on our records during the past year.

During the summer of 1905, 82 professors and instructors from 33 different colleges came to Cambridge for purposes of study, and were made welcome in the Library. 849 volumes have been sent to 70 different colleges, schools, and public libraries, and in a few cases to individuals residing at a distance. To anyone engaged in scholarly investigation, we are glad to send whatever can be spared without injury to our own students, but we usually insist that such loans shall be made through a college or public library. 629 volumes have been lent to Radcliffe College for the use of its students. Application for these books is made through the librarian of Radcliffe, and the books are carried back and forth between Radcliffe College and the Harvard Library by a messenger.

The Sunday use of the reading-room is shown in the following table. The room is open, to readers only, every Sunday in term-time from one to half-past five in the afternoon.

SUNDAY USE.	1897-98.	1898-99.	1899-00.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
Sundays open . . . . .	35	35	35	35	36	35	36	34
Users . . . . .	4,635	5,093	4,846	5,471	4,909	5,073	4,678	4,953
Average . . . . .	132	145	138	156	136	144	129	145
Highest number . . .	297	260	236	226	225	227	173	187

That the number of readers does not increase is no doubt due to two causes, the existence of other opportunities for quiet enjoyment on Sunday afternoon, such as the library of the Union and the gatherings in Phillips Brooks House, and the permission to borrow reserved books from the reading-room on Saturday afternoon or evening to be kept out over Sunday.

#### SHELF DEPARTMENT.

Mr. Frank Carney, who has charge of the current work of the shelf department, reports 18,651 volumes permanently located in the stack during the year, making 344,740 volumes so placed of the entire Gore Hall collection.

No new classes have been taken up for reclassification during the year. 92,898 volumes still remain unclassified. Of these, 56,800 are on the old alcove lists, and the remainder, 36,098, are on the temporary shelf-lists begun in 1878 for new accessions in the classes not yet included in the reclassification, while about 5,200 additional must be allowed for the still unclassified portions of the Riant and Von Maurer collections, which have never been entered on the Library's shelf records. The books in these collections can, however, be traced by means of the numbers in the original printed catalogues in which they were first offered for sale. The longer the completion of the reclassification is postponed, the larger this collection of unclassified books will grow, and the greater becomes the task ahead of us. Whatever labor is expended on these books as they come in has no permanent result, for the marks now assigned are but temporary, and the real work of classification remains for the future. But our shelves are at present so crowded that it is out of the question to take up any of this work on an extensive scale.

I explained in my report last year why the books which were classified between 1878 and 1882 would some day have to be reclassified because of the faulty system of numbering adopted at that time. One section of this work has, I am glad to say, actually been done during the past year — the German History; and for this we are indebted to Professor A. C. Coolidge, who bore the expense of elaborating a new scheme of classification and notation, and of applying it both to the newly received volumes of the Hohenzollern Collection and to the 3,800 volumes of German History already on our shelves. The necessary clerical and mechanical work was done at the expense of the Library. This included retagging the books, renumbering them outside and inside, and writing out the new shelf-lists. Changing the shelf-marks on the cards must come next, but

this has to be postponed for the present, and in the meantime, whenever one of these books is called for by its old number, the new shelf-mark is ascertained by reference to a comparative list.

At the beginning of the summer, the Hohenzollern books, classified, numbered and shelf-listed, were still in the basement of Robinson Hall, the original library collection on German history had been renumbered and stood ready to be rearranged, and 340 other volumes had been brought together from other parts of the Library, and were to be included in the new scheme of classification for German history. It was so manifestly desirable to unite these three groups of books into one homogeneous and systematic collection, that it was worth some extra effort and expense to do so, in spite of our already overcrowded condition. We prepared for the change by moving over to Robinson Hall about 10,600 volumes of theology, liturgics, agriculture, law and medicine, being nearly the whole of the old alcoves 42 to 51. These books were, however, examined with some care before the collections as a whole were transferred, and about 500 volumes were picked out to be still retained in this building, being those which it was thought would be the most likely to be of some present use. These books were given new shelf-marks and the catalogue cards were changed to correspond, so that we might know that whenever a book numbered 42 to 51 should be asked for in future, it must be sought in Robinson Hall. By moving the Slavic collection from the sixth floor and the Austrian History from the fifth floor of the East stack to the basement of the West stack, to occupy the shelves left empty by withdrawing the old alcoves, and by transferring German Literature from the fifth to the sixth floor of the East stack, space was gained on the fifth floor to bring all the German History together. In other words, to find room for an addition of 3,700 volumes, about 28,500 volumes had to be moved. Besides the members of our regular staff engaged in the work, the services of four laborers were required for nine days and those of a wagon with driver for three and a half days. The result of the moving is most satisfactory, and we were able to place the books at the service of scholars who came to use them last summer far more efficiently than if they had been scattered.

The result of moving out the 10,600 old volumes is instructive. We selected for the transfer the group of books which we thought least likely to be in active demand, and from these we picked out, to be retained here, individual volumes and sets which previous experience showed might be wanted. Those sent away surely constituted a group of books as nearly "dead" as any group of the same size



that could have been selected. Yet we find that in the months of October and November alone, we have had to send over to Robinson Hall 71 times to meet the more pressing demands of readers. In the previous twelve months, our messenger had made 91 trips to Robinson Hall (in place of 35 the year before) and 82 trips to Perkins Hall, where a large part of our newspaper collection is deposited. 25,000 volumes are now stored outside the Library building, and are more or less inaccessible to the reader in Gore Hall. Yet this number is bound to increase from year to year until additional shelf-room is provided. But the inconvenience of not having our books at hand is not the only evil result of lack of space. The books in Gore Hall itself become each year less easily accessible. A year ago 185 shelves carried double rows of books; this year the number has increased to 450. Last year we had been obliged to shift the books on 3,800 shelves, in order to make room for accessions in their proper places; this year 6,500 shelves have had to be moved (not including the changes incident to moving the Hohenzollern books). This shifting is itself a serious burden on the shelf department, and being frequently delayed by press of other work, makes more difficult in the meantime the finding of books asked for. Overcrowding the shelves also frequently causes injury to the books on account of the inferior quality of the shelving which was installed in the West stack in 1894. In many unoccupied corners and even in passageways, temporary shelving put together in the Library has been set up to hold the overflow from adjacent parts of the stack.

I am glad to report the completion of an Index-Guide to the Shelves, corresponding roughly to the Index to the Subject Catalogue published several years ago. The incompleteness of our classification has left us with four different systems of shelf-marks still in use, — the old alcove numbers characteristic of the Library before 1877; the temporary numbers (Roman numerals) used since 1878 for books not yet permanently classified; the fixed location marks (of the general form 12276.8) used from 1878 to 1882 and continued since that time in the classes then arranged; and the modern marks (of the general form Arc 342.10) which will gradually displace all the others. This is of itself confusing, but our condition is made worse by the fact that the marks of the third kind have lost some of their original simplicity with the spreading out of these classes beyond the limits originally assigned them, as explained in my last report. The Index-Guide, for which Mr. Carney has long been collecting the material, but which was put together and printed very rapidly in the autumn, gives, first, plans of each floor of the



two stacks, showing at a glance what subjects each floor contains; second, a list of all the shelf-marks in use, with the subject which each one covers and the precise row in the book-stack where books so marked will be found; and third, an index of subjects, giving the corresponding shelf-marks under which books on those subjects are to be sought. This Guide will, I am confident, be found of very practical use by all who have access to the stack, and will also be of the greatest assistance in training our own runners and assistants.

CATALOGUE DEPARTMENT.

Mr. Currier, in charge of the catalogue department, presents the following facts and figures in regard to the work of this department.

CATALOGUE WORK.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
Titles catalogued for College Library :					
Full and complete work . . . . .	6,727	9,226	8,517	8,842	7,401
Continuations, analytical entries, etc.	5,958	4,263	4,450	5,573	6,319
Incomplete work . . . . .	11,484	2,936	3,373	6,801	10,442
Total . . . . .	24,169	16,425	16,340	20,716	24,162
Titles for Dept. and Special Libraries					
Total titles catalogued . . . . .	3,361	6,594	3,846	4,121	3,562
	27,530	23,019	20,186	24,837	27,724
Cards added to Catalogue :					
Printed cards —					
College Printing Office . . . . .	16,857	16,555	18,135	11,827	6,026
Library of Congress . . . . .	. . .	2,700	5,440	7,011	7,981
A. L. A. Publishing Board . . . .	6,849	3,709	4,076	5,916	3,460
Total . . . . .	23,706	22,964	27,651	24,754	17,467
Written cards . . . . .					
	6,597	8,455	6,728	15,570	23,211
Total . . . . .	30,303	31,419	34,379	40,324	40,678

Economies in administration fall heaviest on the catalogue department, and an examination of these figures shows what has been the inevitable but unfortunate result of attempting to handle a greatly increased number of books without any increase in staff, namely, that a smaller proportion than ever before of the titles recorded have been catalogued thoroughly and permanently, and that a much larger proportion have been done in a temporary and imperfect manner. As a settled policy, this is poor economy, but we have

been driven to it simply by lack of means and lack of room. A description of the methods adopted was given in some detail in my last report and need not be repeated. We have kept steadily in view the desirability of making some kind of author record on the public card catalogue for as large a number of titles as possible, and in this respect have modified our policy of a few years back, when we confined our incomplete work to an entry on the official catalogue alone. In our present position the necessity of keeping up two catalogues, a so-called official catalogue and a public catalogue, is felt as a distinct burden, yet the existence of the two catalogues is so bound up with the whole system of the Library, that any change of practice in this respect would be extremely difficult to carry out, and in some respects disastrous. Most great libraries find it expedient to maintain two catalogues, one for staff use and one for public use, and if in future the workrooms of the staff should be further removed from the public catalogue room, a duplicate catalogue would be almost a necessity. Of the general situation, Mr. Currier says : —

“ The total number of titles handled (27,724) is the largest on record, the nearest previous total being that for 1900–01 (27,530), when the Riant books were recorded. Ten years ago the total was 10,358, the staff being slightly smaller. In analyzing these figures, it becomes evident that the energies of the catalogue department are being devoted more and more to recording in the briefest fashion the influx of books and pamphlets, the aim in view being to avoid the acquisition of duplicates and to make it possible for the library officials, at least, to find a given book of which the author and title are known. The necessity of maintaining an accurate, scholarly and complete catalogue is rapidly falling into the background. The subject catalogue especially is suffering from long continued neglect, so much so that it is already in bad repute with many users of the library. In spite of the relief afforded by using catalogue cards printed by the Library of Congress and by introducing the temporary method of cataloguing described in last year's report, the statistics show that of the 24,198\* new titles catalogued, only 11,871, or 49 per cent., were permanently disposed of. In addition to these, 3,360 titles were inserted in the public author and subject catalogues by temporary methods, making 15,231 titles, or 63 per cent. of the whole, made available for public consultation.† Deducting from the 11,871 titles permanently catalogued, 2,650 titles cata-

\* Deducting 3,526 continuation entries from the total of 27,724 reported above.

† 7,082 titles (including 2,187 titles of Von Maurer books and many titles of German dissertations and other pamphlets) and 1,885 titles of books in department libraries, making up the other 37 per cent., are entered on the official catalogue only.

logued with Library of Congress cards, 1,699 catalogued with A. L. A. cards, and 519 obituary cards, there remain only 7,003 titles (29 per cent. of the whole) permanently catalogued by our own staff. If this figure continues to diminish, cataloguing will become a lost art with us. It must be remembered, too, that this figure represents, as a rule, the simpler books, for the more difficult ones are weeded out for "temporary" methods. It is hardly necessary to point out that the time spent on abbreviated and temporary methods is largely time wasted, and much of the work put into these books will have to be overhauled at some future day."

The decline in the proportion of printed cards inserted in the catalogue, 17,467 out of 40,678, or 43 per cent., instead of 27,651 out of 34,379, or 80 per cent., two years ago, also indicates a deterioration in the character of the catalogue and a less perfect system of duplication and coöperation with other departments. The charge for printed cards from the College printer has dropped from \$1,370.49, two years ago, to \$390.21 in 1904-05. This considerable saving is in part due to the use of a larger number of Library of Congress cards, but is mainly the result of substituting written cards for printed in connection with the shorter methods of work employed.

The use of Library of Congress printed cards continues to give satisfaction. Of the books catalogued in full and permanently for the College Library, 28.9 per cent. were catalogued by using these cards, against 23.5 per cent. last year and 17.1 per cent. the year before. The cost of these cards comes to about 3.3 cents per title, or .9 of a cent a card. The saving in expense over cards printed by our own printer is very considerable, but it is a saving which cannot be stated in precise terms, because the processes involved in the two methods differ.

At the request of the Library of Congress, we prepared for the Lewis and Clark Exposition in Oregon a sample catalogue of about seventy of their cards to show our method of treating them.

We continue to coöperate with four other libraries in cataloguing the articles in about 250 current periodicals, cards for which are printed by the A. L. A. Publishing Board, but many of the titles received we have been unable to incorporate in our catalogue owing to pressure of other work.

The catalogue of the Molière collection, made at the expense of Mr. Hyde, the donor of Professor Bôcher's Molière library, was practically complete early in the year, but waited until the last of June for the printer. It is now passing through the press and will appear in print in the course of the winter. The Von Maurer library,

received in the summer of 1904, numbering 4,534 volumes,\* with additions received in the course of the year for the Hohenzollern Collection, amounting to over 1,200 volumes, and the 600 volumes from Professor Norton's library, have required attention this year in addition to the usual current accessions. A substantial part of the Scandinavian books has been fully catalogued (with the help of Mr. Christian Larsen, of the Graduate School); for the remainder of the Von Maurer library we must be content for the present with a record on the official catalogue alone. For the Norton books received at the Library we have at present only a rough preliminary record, but we have had cards made for all books remaining at Professor Norton's house which are not duplicated in Gore Hall.

By means of extra assistants temporarily employed during the spring and summer, much of the changing of shelf-marks which had been necessarily postponed was brought up to date, and the cards for the medical books sent two years ago to the Boston Medical Library were removed from the public catalogue and cancelled. We had supposed that these cards could be suffered to remain as a matter of record, without causing us annoyance. But their presence in the catalogue led to such frequent requests for the books as to be really troublesome, and we were compelled to remove them.

Our record of "continuations" received by gift, such as annual reports of institutions, societies, and government departments, and other similar publications, has long been unsatisfactory and incomplete. Many of them have been sent directly to the shelf or to the pamphlet files without any record being made in the catalogue or elsewhere, and we have often been at a loss to say just what we had or to find what we knew had been received. The whole system has been lately overhauled and put under definite rules which will insure an immediate and simple record of everything received at a minimum of labor. To enter each successive number on the public catalogue as received is unnecessarily burdensome, but to let such publications accumulate without any record on the catalogue is unbusinesslike. In future, the fact that we have reports of a certain institution will be recorded in the catalogue by cards in this form: —

Cambridge (Mass.) social union.

Annual reports.

Detailed statement not entered on these cards.

(Recorded on Continuation Cards.)

\* The Scandinavian section of this valuable library, containing 2,658 volumes and 2,911 pamphlets, besides maps and newspapers, had been received in January, 1904.

No change will have to be made as successive numbers come in. The record once made in this simple form is made once for all. The "Continuation Cards" referred to are kept on file at Mr. Gookin's desk, where all books and pamphlets coming to the Library by gift are first received. The record of a new number received is made immediately on the appropriate card, successive numbers of the same report being entered on successive lines and the date of reception is noted. If there appears to be a gap in the set and an earlier number has failed to reach us, the fact is noticed and the missing part can be asked for when that just received is acknowledged. No further catalogue record is needed and the volume or pamphlet goes directly to its place on the shelves. To complete the record on these cards of what may have gone unrecorded in previous years, and to insert the proper entry card in the catalogue, is somewhat troublesome at the beginning, but much time will be saved in the end, and the system, once fairly started, is entirely simple and satisfactory. These Continuation Cards already amount to about 3,500, and preserve the record of that number of publications received with more or less regularity by gift or, in a few cases, by purchase.

Two years ago, in my report, I quoted Mr. Currier's estimate that, "including books lately received and now in process of cataloguing, books received in recent years and recorded on the official catalogue only, certain special collections, such as the Riant MSS. and the Judeo-German and Slovak collections, bound volumes of pamphlets, and some sets of printed cards for articles in long series (not yet inserted in the catalogue), we have on hand at the close of the year about 33,870 titles uncatalogued or incompletely catalogued." This number Mr. Currier reports has now been diminished by 5,578 titles in the ordinary progress of our work, but, on the other hand, it has been increased by the following items: books catalogued during the last two years on the official catalogue only or on the public catalogue without due care, 16,743; additional printed cards for analytical work, from the A. L. A., 935; Von Maurer and Hohenzollern titles entered only on the official catalogue or on the public catalogue without due care and completeness, 4,458; Von Maurer volumes at present unrecorded, 450; Von Maurer pamphlets at present unrecorded, 2,500; total, 25,086, making a net addition to the number reported two years ago of about 19,500 titles. That is to say, we have an accumulation of about 53,000 titles which must sometime be reëxamined and completed. Nothing could more strongly emphasize the necessity of making some provision at the earliest possible moment for at least a moderate enlargement of our building and our staff.

## ORDERING DEPARTMENT AND FINANCIAL CONDITION.

The following table shows the income of our book funds, receipts from other sources for the purchase of books, and expenditure for books during the last six years.

INCOME AND EXPENDITURE.	1899-00.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
<b>From book funds, —</b>						
Balance from previous year .	\$5,023	\$5,136	\$4,534	\$4,036	\$3,208	\$4,074
Income of the year . . . .	18,475	19,306	19,972	19,446	19,992	19,560
Total available . . . . .	23,498	24,442	24,506	23,482	23,200	23,634
Spent for books . . . . .	18,362	19,908	20,470	20,274	19,126	18,853
Balance to next year . . . .	5,136	4,534	4,036	3,208	4,074	4,781
<b>Special gifts, sales, etc. —</b>						
Balance from previous year .	2,940	936	1,932	2,276	1,835	1,707
Received during the year . .	5,137	6,115	3,411	4,457	4,406	4,611
Total available . . . . .	8,077	7,051	5,343	6,733	6,241	6,318
Spent for books . . . . .	7,141	5,119	3,067	4,898	4,534	3,504
Balance to next year . . . .	936	1,932	2,276	1,835	1,707	2,814
<b>Total spent for books, —</b>						
College Library . . . . .	\$25,503	\$25,027	\$23,537	\$25,172	\$23,660	\$22,357
Department Libraries (books ordered through Coll. Lib.) .	4,748	4,484	7,245	7,389	6,214	5,623
Total . . . . .	\$30,251	\$29,511	\$30,782	\$32,561	\$29,874	\$27,980

As part of a general plan of retrenchment in administrative expenses, the Corporation made a new apportionment of the income of the Pierce, Greenleaf, Jarvis, and Treadwell funds, these being the only Library funds which may be used either for buying books or for administration. The total income of these four funds in 1904-05 was \$22,293.24, of which, under the new rule, \$3,809.28 fell to books, and \$18,483.96 to administration. This was a decrease of \$976 in the book portion from the previous year, but only brought \$799 additional to administration, owing to a shrinkage in the income of the Greenleaf Fund. The general rate of income, however, increased, so that, in spite of the withdrawal of \$976, the general income for books was diminished by only \$432. In expectation of a larger decrease, the appropriation of the income among the different departments of study was made in the autumn on a basis of one thousand dollars less than in the year before, and strict

instructions were given not to allow the orders to overrun the sums allotted. The total estimates for the year (new orders, outstanding orders, continued works, periodicals, etc.) amounted to \$18,790, the actual purchases (allowing for unpaid bills carried over at the beginning and end of the year) to \$18,428, while the income of the book funds amounted to \$19,560. We therefore begin the current year with a larger free balance than before, and have been able to submit to a further reduction of \$500 in our book income without diminishing the scale of our appropriations. It should be stated that this withdrawal of a portion of the income available for books last year did not increase the sum to be spent on the administration of the Library, but simply diminished to that extent the balance of expense which the College has to make up from its unrestricted income. The \$500 withdrawn this year, on the contrary, is expressly for the purpose of increasing by the same amount the sum to be spent in the Library for other purposes. It is to be hoped that both reductions are of a temporary nature, for the diminution in book-buying power is felt unfavorably by many departments. But until some substantial increase can be made in our regular income for administration, it is wise to curtail to a moderate degree the purchase of books.

The work of the ordering department, in charge of Mr. Potter, is summed up in the following table, which gives the figures of the last three years and the averages of two previous five-year periods.

WORK OF ORDERING DEPARTMENT.	1890-95. Average.	1895-1900. Average.	1902-03.	1903-04.	1904-05.
New orders, —					
Total received and examined . . .	5,132	7,327	13,566	17,397	9,577
Already owned or ordered . . . .	1,193	1,725	4,921	6,930	3,428
Forwarded . . . . .	3,800	5,036	8,477	11,041	5,984
Estimate of cost, —					
For the College Library . . . . .	\$9,079	\$10,145	\$14,982	\$16,995	\$13,191
For Departments . . . . .	2,902	3,223	4,621	3,512	2,954
Total estimated cost . . . . .	11,981	13,368	19,603	20,507	16,145
Shipments received from abroad . .	28	33	76	81	61
†No. of vols. bought for College Lib.	4,416	5,736	7,731	7,870	7,636
‡Total gifts examined and passed on	16,050	16,455	20,799	26,268	20,982

† Excluding volumes formed by binding periodicals and pamphlets, but including volumes received on exchange account from other libraries.

‡ Including both volumes and pamphlets. See p. 214.



An inspection of the table shows that during the year 1904-05 there was a welcome falling off in the work of the department from the exceptionally heavy figures of the year before. Work on the Von Maurer library enters into the figures under "New orders" for 1903-04. These were increased also by hundreds of other orders for the Hohenzollern Collection, while in 1904-05 this work diminished in anticipation of Mr. Lichtenstein's projected expedition to Germany. During the year now beginning, in which Mr. Potter, the head of the department, is away on leave, I hope to see a still further reduction in the number of orders passing through our hands.

#### STAFF.

Mr. Tillinghast was absent on leave throughout nearly the whole year covered by this report. In his absence, a larger responsibility fell to Mr. Carrier, who has charge of the catalogue department. Mr. Potter has leave of absence for the year 1905-06.

I cannot close this report without expressing my appreciation of the spirit shown by the staff in general, all the members of which, in spite of the increasing difficulties and inconveniences attending the Library's present crowded condition, have worked with an uncomplaining cheerfulness, and have entered heartily into the methods by which we have attempted to handle a greatly increased amount of work with no substantial increase in the number of workers. I think I may also express, on their behalf, the satisfaction felt in the privilege which we have all enjoyed the last two years of one free half-day a week during the six summer months. This has, I am sure, contributed to the general good health of the staff, and to the freshness and excellence of their work.

It gives me pleasure to mention the fact that in March of this year, Mr. Kiernan completed fifty years of continuous service in the Library — a service marked by a spirit of unvarying helpfulness and by a practical knowledge of the contents of the Library which has excited the admiration and gratitude of a wide circle of friends, including hosts of professors and students in this University and of scholars who have come here from a distance.

WILLIAM COOLIDGE LANE,  
*Librarian.*



## THE GRAY HERBARIUM.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—During the past academic year the following changes in the staff of the Gray Herbarium have occurred. Dr. J. M. Greenman resigned July 1st his assistantship in order to accept the position of Assistant Curator at the Field Columbian Museum in Chicago. Except for an interval of two years' foreign study, Dr. Greenman has been connected with the Gray Herbarium since 1894 and has been the author of several of its published Contributions. For some years the tropical investigations carried on at the Herbarium have been largely in his charge. His resignation is much regretted. Since June 1st, 1905, Mr. H. H. Bartlett has been employed as assistant. Additional bibliographical work, involved in the issue of the Card Index of new Genera, Species and Varieties of American Plants, has been provided for by the employment of Miss H. E. Day as clerical assistant. Mr. Alexander E. Wight was commissioned from February to April to collect plants for the Gray Herbarium in the Bahama Islands.

The more noteworthy accessions to the Herbarium have been as follows:—By gift or in exchange: from Mr. John Macoun, 384 plants of British America; from the Royal Botanical Garden at Sibpur, 124 plants of British East India; from the United States Department of Agriculture, Division of Agrostology, 1501 specimens, chiefly grasses from the western United States; from Mr. F. E. McDonald, 433 plants of Illinois; from Mr. J. D. Sornborger, 473 plants of Newfoundland; from Dr. J. V. Haberer, 300 plants, chiefly of the lake region of Central New York; from Mr. Charles C. Deam, 515 plants of Guatemala; from the Ames Botanical Laboratory, 164 ferns of Florida collected by Mr. A. A. Eaton; from Dr. G. G. Kennedy, 100 specimens of Halsted's Weed-seeds; from Professor E. Paoletti, 163 plants of northern Italy; from Mr. F. F. Forbes, 166 plants of Quebec; from Mrs. James M. Spencer, 200 plants of the Mediterranean region; from Mr. A. W. Driggs, 296 plants of Connecticut; from the Rev. H. L. Everett, 170 plants of Brazil. By purchase: from Mr. A. H. Curtiss, 306 plants of the Isle of Pines; from Mr. W. E. Broadway, 377 plants of Grenada; from Dr. E. Palmer, 410 plants of Mexico; from Dr. R. M. Harper, 417 plants of Georgia; from Mr. L. R. Abrams, 302 plants of

California; from Mr. B. F. Bush, 539 plants of Texas; from Dr. E. Pritzel, 914 plants of Australia; from Mr. A. Fredholm, about 5000 plants of southern Florida; from Mr. A. E. Wight, 1378 plants of the Bahama Islands. Collected by the staff: by Mr. Pringle, 574 plants of Mexico; by Dr. Greenman, 1268 plants from the mountains of West Virginia; by Professor Fernald, 1600 plants of the Gaspé Peninsula, Quebec; by the Curator, 500 plants of central Illinois.

The entire number of specimens received from all sources has been 21,473. The number of sheets of mounted specimens added to the organized portion of the Herbarium has been 14,008.

The library has been increased by 239 volumes and 271 pamphlets. The development of the library of the Gray Herbarium, like that of the Herbarium itself, dates from the beginning of Dr. Gray's botanical activity and has been carried on continuously and with great care for more than seventy years. Notwithstanding the excellence of the library which has thus been built up, it still lacks many of the earlier botanical works. A great part of these might yet be purchased and indeed are being secured as rapidly as the limited means of the Herbarium permit, but the market price of such works is increasing at a rate so alarming that the matter of a more speedy purchase of the desiderata of the library demands careful attention. It is by no means rare to find, for instance, in the catalogues of English dealers, volumes which ten or twelve years ago might have been obtained at three to five shillings each, now quoted at a pound apiece. It is therefore safe to say that if the Gray Herbarium through special gift should be put in a position to buy more freely the rarer works needed to complete its library, purchases could now be made which ten or twenty years hence could scarcely be made at all or only at prices a hundred per cent. greater than those at present current. The necessity of a historically complete library to the systematic biologist can scarcely be too highly emphasized. In some other subjects, as, for instance, in medicine, engineering, etc., a work several decades old is much out of date and is likely to have scarcely more than a sentimental importance. In systematic botany and zoölogy on the other hand, owing to the fact that the nomenclature is upon a historical basis, there is constant need to examine the earlier literature of the subject.

During the past summer the Curator spent three months in visiting the herbaria at Paris, Geneva, Vienna, Berlin, Copenhagen, London, and Kew, and took more than four hundred photographs of type-specimens of the rarer tropical American plants, thus consider-

ably adding to an already valuable collection of photographic plates, which has been found a highly useful adjunct to the plant-collections of the Herbarium. The journey was also successful in somewhat extending the exchange relations of the Herbarium. The Curator represented officially the botanists of Harvard University, the American Academy of Arts and Sciences, the New England Botanical Club, the Boston Society of Natural History, and the Vermont Botanical Club, at the International Botanical Congress at Vienna, an assembly notable in the history of botany and productive of very promising legislation regarding the involved and controversial subject of plant-nomenclature.

Professor Fernald spent the months of July and August continuing his botanical exploration of the Gaspé Peninsula in eastern Quebec, and obtained a large series of specimens greatly amplifying the knowledge of its exceptionally interesting and complicated flora.

Mr. Pringle has continued with success his long and arduous exploration of the flora of Mexico, his work this season having again resulted in the discovery of many new or imperfectly known species.

Miss M. A. Day, librarian of the Herbarium, has continued the editing of the Card Index of new Genera, Species, and Varieties of American Plants, and with some clerical aid has issued sets of 8016 cards during the year. The work has been so carefully managed that by the sale of duplicate sets it has more than repaid the expense incurred. This Index, already containing about 40,000 cards, has become an important bibliographical aid in systematic botany. Besides monographs and irregular publications, it covers more than sixty botanical magazines and scientific serials.

To accommodate the growth of the main herbarium it has been necessary to fit with cases a store-room on the second floor. The room is small and ill-lighted, but it has seemed unavoidable to move into it the ferns, fern-allies, and conifers in order to relieve growing pressure in the other rooms. To provide the additional case-room necessary, a block of eight steel cases and a half block of four of similar character have been installed at an expense of about a thousand dollars. A steel book-stack has also been added in the library with a capacity of 1500 volumes.

Mention was made, in the last report, of the death of Mrs. W. B. Potter, a liberal patron of the Gray Herbarium and for some years a member of its Visiting Committee. Mrs. Potter bequeathed to the President and Fellows of Harvard College the sum of \$50,000 with the provision that it be known as the W. B. Potter Fund, and

its income devoted to the support of the Gray Herbarium. Mrs. Potter also made the Gray Herbarium one of the residuary legatees of her large estate, and it is thus probable that the sum of her bequests when received will considerably exceed the amount mentioned. These bequests are much the largest ever received by the Herbarium, and their importance to the establishment would be difficult to overstate. Heretofore the income derived from the endowment of the Herbarium has amounted to less than half the sum needed for the annual expenses, the large deficiency having been made up by the returns from copyrights, gifts for present use, and sales of publications, etc., sources yielding a fluctuating support. Mrs. Potter's bequests will so augment the vested funds that their income will considerably exceed the probable receipts from other sources. In consequence, the income of the Herbarium will be not only larger but far more reliable than in the past. The settlement of Mrs. Potter's estate is likely to be delayed for some months yet.

During the past year it has again been necessary to cover a considerable part of the expenses of the Herbarium by gifts for present use. Contributions to this end have been gratefully received from about one hundred and fifty-six donors, whose gifts are specifically stated in the Treasurer's report. Once more the Gray Herbarium owes a special debt of gratitude to the members of its Visiting Committee, without whose cordial interest and liberal aid it would have been quite impossible to complete the year free from debt.

During the year the staff of the Herbarium has published twenty-one papers, of which the following from their scientific interest may be specially mentioned : —

The American Representatives of *Pyrola rotundifolia*. By M. L. FERNALD. *Rhodora*, VI, 197–202. 1904.

Contributions from the Gray Herbarium, N. S. — Vol. I (Nos. i–xxv) — Title-page, contents, dates of issue, errata, and index. Compiled by M. A. DAY. Cambridge, 1904.

*Draba incana* and its allies in northeastern America. By M. L. FERNALD and C. H. KNOWLTON. *Rhodora*, VII, 61–67. 1905.

Contributions from the Gray Herbarium, N. S., No. xxix. New plants from the Islands of Margarita and Coche, Venezuela. By J. R. JOHNSTON. *Proc. Am. Acad.*, XL, 683–698. 1905.

The North American Species of *Eriophorum*. By M. L. FERNALD. *Rhodora*, VII, 81–92, 129–136. 1905.

Contributions from the Gray Herbarium, N. S., No. xxx. A Revision of the Genus *Zexmenia*. By W. W. JONES. *Proc. Am. Acad.*, XLI, 143–167. 1905.

Contributions from the Gray Herbarium, n. s., No. xxxi. I. Descriptions of Spermatophytes from the southwestern United States, Mexico, and Central America. By J. M. GREENMAN. II. Diagnoses and Notes relating to American Eupatorieae. By B. L. ROBINSON. *Proc. Am. Acad.*, XLI, 235-278. 1905.

The Genus *Arnica* in northeastern America. By M. L. FERNALD. *Rhodora*, VII, 146-150. 1905.

A new *Krynitzkia*. By J. M. GREENMAN. *Bot. Gaz.*, XL, 146-147. 1905.

B. L. ROBINSON, *Curator*.

## THE BOTANIC GARDEN.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — As Director of the Botanic Garden, I have the honor of presenting the following report for the academic year 1904–05.

The weather during the greater part of the growing season was favorable for most of our out-door plants, and we had comparatively few losses during the year. We had, however, a steady contest with the two sorts of destructive moths, and it was only after heavy expenditure of care and labor that any satisfactory progress was made. Many of our large trees have rough bark, under the flakes of which the gypsy moths find refuge from the heat of summer. The removal of these flakes has not only been a difficult task, but it has in some cases changed the appearance of the trees in a remarkable manner. It is more than possible that, on account of these serious injuries, we may be obliged to cut down a few of the large specimens of trees which date from the foundation of the Garden in 1807. We shall be sorry to lose these stately trees which have for many years added much to the attractiveness of our grounds, but at present they are a menace to the rest of our plants.

The general distribution of species in the front area has not been much changed, except in the special plots. These continue to attract considerable attention from visitors, and appear to deserve some enlargement. It is certain that our Shakspeare plot, which has been described in numerous illustrated magazine articles, is established in popular favor. We regret that it is impossible to give more space to this interesting group, owing to the fact that it now encroaches somewhat on the systematic beds.

Two years ago, we were obliged to fill up the old pond near Raymond Street because its water, having become stagnant from loss of the supplying springs which had been cut off by the Raymond Street sewer, was highly offensive, and was a prolific breeding-place for mosquitoes. In this filled pond we planted Monocotyledonous plants, especially the Grasses and certain species of Iris, hardly expecting that they would there thrive. But they have become an attractive feature of our display, and are likely to improve year

by year. During the past season they have flowered abundantly and are now well established in their new home.

We have nothing but praise for the thoroughness with which the extensive and costly repairs of our greenhouses were made last year and this. The leakage of heat during the winter was slight, and we were no longer troubled by the constant drip from melting snow. It must be remembered that such repairs, however thorough, are only a makeshift, and that, sooner or later, our whole range on the lower terrace must be rebuilt along modern lines. When such a range is in immediate prospect, architects' plans, which have long been studied out in every detail, will be presented for the consideration of possible benefactors. A range of this nature will comprise, in addition to our existing outfit, a spacious house for aquatics which will be of great use to the students of Cryptogamic Botany.

The Memorial Greenhouses and Laboratory have been repainted and fitted with improved tables. A part of the floor of the Laboratory has been suddenly invaded by destructive white ants, and the underpinning has been eaten away. This condition of affairs did not become serious until last July, although we felt that trouble was impending. Provisional shoring-up of the floor answers for the present, but, if matters grow worse, we shall be obliged to take away all the wood of the floor, and make a cement floor instead. The fittings of the Laboratory have proved efficient in every way. Of course, in these days, new appliances in laboratories become obsolete in a short time, but ours will not have to be replaced for a good while yet.

The Cuban Experiment Station continues to do good work. We receive from the efficient superintendent, Mr. Grey, full and satisfactory reports of progress. The experiments outlined have been carried through successfully. One series has proved of so much interest to West India planters that Sir Daniel Morris has had the report published and widely circulated. Mr. Grey has had much bad weather to contend with, but he has shown much courage under vexatious circumstances, particularly during the spring, when an unprecedented rainfall washed away a large number of his choice plants. The range and quality of our tropical plants at this branch of our Garden are steadily changing for the better. But, owing to the great difficulty of selecting certain varieties of tropical plants of economic importance, and getting them safely transported to a point which has been so far from direct lines of West India traffic, it has seemed best to establish new methods of procuring such specimens.

Therefore, our Head Gardener, Mr. Robert Cameron, has been detailed for this special work, and is now journeying through the islands, in search of the plants we require to supplement our present stock. These plants he is to convey from a point in southern Jamaica to Santiago, Cuba, and thence to the station at Soledad near Cienfuegos, with no change of freight. Hitherto we have had to break cargo at New York, in mid-winter, and reship to Cuba. Mr. Cameron will also send direct to Cambridge a considerable shipment of palms and other desirable plants for our greenhouses, and, since these can come in the vessels which land freight in Boston, we are confident of reasonable success.

The changes in the Laboratories connected with the lecture-room at the Garden have proved satisfactory to the teachers in the Summer School of Botany, and the rooms have served also a good purpose for the regular College electives.

The Laboratory at the Museum for the large classes in Botany needs immediate attention from the proper authorities. The Overseers' Committee on Botanical Instruction has taken the matter in hand, since all of the members were convinced by personal inspection that the ventilation and lighting of the present rooms are totally inadequate. The class in the first general elective had this year more than two hundred men at the tables, in a space which ought not to hold more than fifty students. It has been shown by the success of the ventilation in the Nash Lecture-room that the laboratories can be made to serve for even more than two hundred students. The cost will be rather under five thousand dollars.

The Museum has continued to prove attractive to large numbers of visitors. The Cryptogamic collections on the lower floor are well placed and constitute an interesting feature of the exhibition.

The Ware Collection of Blaschka Glass Models has received a considerable number of new specimens within the academic year, all of which have been incorporated in the general morphological, systematic, and economic series. The following figures indicate the approximate completeness of the systematic collection for illustrating the great groups of flowering plants: 147 Natural Orders; 520 genera; and 687 species. The cross-sections and other magnified details number about 2,500. In the large room, the cases are filled with enough specimens to exhibit the affinities of every one of the important series of Phanerogamic plants.

The whole Collection has been again thoroughly examined by Dr. Greenman, and his catalogue of determinations is nearly ready for



the press. Its publication will follow the arrival of the next invoice, possibly in March.

It is with sincere regret that we announce the resignation of our efficient nomenclator, Dr. Greenman, Instructor in Botany and Assistant in the Gray Herbarium. During the past year he placed our students' Herbarium in excellent order, and arranged our large collection of duplicates in such manner that it will require little care for some time.

Great additions have been made to the Economic collections. We note especially large invoices from the Philadelphia Commercial Museums. These accessions possess for us a peculiar interest, since they have been selected by one who was formerly an assistant in the botanical courses here, and who is now aiding us by his services as member of the Overseers' Committee on the Garden and Museum, Professor W. P. Wilson, Director of the Philadelphia Museums.

A new form of "container" for the display of dry specimens of useful products of plants has been devised by the Director during the past year, and has been subjected to severe tests. These tests having proved that the new jars, or "containers," satisfy every reasonable requirement as to clearness, attractiveness, and low cost, they are being installed rapidly in our cases.

The collection of fossil plants has received through purchases made by Professor Robert T. Jackson, now in Europe, important accessions designed especially for advanced students. Through the kindness of Mr. Elliot C. Lee, this collection, long inaccessible to students, has now been put in such condition that all of its treasures can be utilized. It is to Dr. Alexander Agassiz, Director of the University Museum, that the Botanical Department now owes the use of the large collections of fossil-plants brought together by his father, the late Professor Louis Agassiz. Obviously only a few of these plants can be shown to the general public, but the room in which the well-arranged suites of specimens are now placed is open to all properly qualified investigators.

The Director again takes pleasure in acknowledging his great indebtedness to the members of the Overseers' Committee on the Botanic Garden and Botanical Museum. As will be seen by the report of the Treasurer, the fiscal year of this establishment has been on the whole satisfactory. But without the hearty coöperation of the Committee, this would have been impossible. Attention must again be called to the continued need of the Garden for a

permanent endowment adequate to its modest wants. It is exceedingly mortifying to be obliged to bring before the public, year after year, the needs of the Garden and Museum. It is to be earnestly hoped that this condition of affairs may be speedily changed for the better by some endowment which would yield annually, in addition to our present invested funds, about five thousand dollars.

GEORGE LINCOLN GOODALE, *Director*.

## THE ARNOLD ARBORETUM.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — I have the honor to submit the following report on the progress and condition of the Arnold Arboretum during the year ending July 31, 1905.

The exceptionally dry summer and autumn of 1904, preceded and followed by winters of unusual severity, have done serious injury in the Arboretum, and trees that have been growing here for from twenty-five to thirty years and appeared thoroughly established have died. Trees native to the northern United States have suffered more than those from other regions, and the conifers of the collection, usually the first to feel the effects of dryness and low temperature, have this time showed themselves able to bear unfavorable conditions better than the deciduous-leaved trees.

The brook that enters the Arboretum from the grounds of the Adams Nervine Asylum flows irregularly. For a few weeks of the year it is a torrent, tearing away its banks and choking its bed with stones and gravel; for the remainder of the year it is a dry and unsightly ditch. The annual cost of repairing the damage done by the floods of this brook has been considerable, and to avoid this expenditure, and to improve the appearance of the north meadow, the brook has now been carried under ground in a concrete culvert from the point where it enters the Arboretum directly across the meadow to the point where it flows out of the Arboretum under the Arborway. The length of this culvert is 1,237 feet and it has cost \$7,321.75. The money for this improvement was provided by the members of the Visiting Committee and their friends.

For several years the Arboretum has leased from the Trustees of the Adams Nervine Asylum a house with a small piece of ground on Centre Street for the home of the Superintendent and as a nursery. The continuance of the lease of this property is uncertain, and as there is not in the grounds of the Arboretum a site for a house for the Superintendent, the Visiting Committee has purchased for his use a house and about 42,000 feet of land at the corner of Centre and Orchard Streets, Jamaica Plain. The land is close to the principal entrance to the Arboretum and is well adapted for the purpose for which it is intended. It cost \$21,000.

The permanent planting of the large collection of North American Thorns (*Crataegus*) which has been raised here during the last four or five years was begun in the spring. The eastern and southeastern slopes of Peter's Hill have been used for the purpose, and groups of three hundred species have already been planted.

The interchange of plants and seeds with other horticultural and botanical establishments has been continued during the year. 10,801 plants (including grafts and cuttings) and 929 packets of seeds have been distributed as follows: To the United States, 8,716 plants and 52 packets of seeds; to Canada, 389 plants and 47 packets of seeds; to Great Britain, 558 plants and 152 packets of seeds; to the continent of Europe, 1,138 plants and 567 packets of seeds; to Japan, 99 packets of seeds; to China, 2 packets of seeds; to Java, 6 packets of seeds; to India, 4 packets of seeds. There have been received during the year 6,544 plants and 713 packets of seeds.

During the year 4,298 sheets of dried plants have been added to the herbarium, and 500 sheets of duplicates have been distributed.

The library has received, by gift, 1,429 bound volumes and 587 pamphlets, including a number of rare and expensive books purchased from a fund of \$5,000, given to the Arboretum by Mr. Francis Skinner, of Boston, for this purpose.

During the year the usual instruction has been given by Mr. J. G. Jack at the Arboretum to students of landscape-gardening from the Institute of Technology and to University students of forestry, and to a spring class of thirty-four special students, largely composed of teachers. The Arboretum has also been used by other teachers to illustrate field lectures on botany and dendrology.

During the year Mr. Alfred Rehder, pursuing his work in Europe for the Bradley Bibliography of dendrological literature, has examined the libraries of the botanical and forestry establishments at Munich, Göttingen, Dresden, Vienna, and Buda-Pesth. Mr. J. G. Jack has started on a journey to the East to obtain material for the Arboretum in Japan, Korea, and northern China, and Mr. George R. Shaw has again visited Mexico and Europe to prosecute his studies of the genus *Pinus*.

The following books and papers have been published during the year:—

*A Manual of the Trees of North America exclusive of Mexico.* By C. S. SARGENT. 826 pp., with 642 illustrations from drawings by C. E. FAXON. Houghton, Mifflin & Co. March, 1905.

*Trees and Shrubs, or Little Known Ligneous Plants.* Part IV, completing Volume I, and containing contributions from ALFRED REHDER,

GEORGE R. SHAW, and C. S. SARGENT, and 25 quarto plates from drawings by C. E. FAXON. Houghton, Mifflin & Co. April, 1905.

The Pines of Cuba. By GEORGE R. SHAW. *The Gardener's Chronicle*, series 3, XXXV, p. 179, with figure.

Pines of Western Cuba. By GEORGE R. SHAW. *The Gardener's Chronicle*, series 3, XXXIX, 98.

*Pinus leiophylla*. By GEORGE R. SHAW. *The Gardener's Chronicle*, series 3, XXXVI, 175, with figure.

*Pinus Nelsoni*. By GEORGE R. SHAW. *The Gardener's Chronicle*, series 3, XXXVII, 306, with figure.

I take this opportunity again to express my thanks to the Trustees of the Massachusetts Society for the Promotion of Agriculture for their annual grant of \$2,500 for the maintenance of the Arboretum, which they have now continued for another three years, and to the members of the Visiting Committee for their advice and assistance.

C. S. SARGENT, *Director*.

## THE CHEMICAL LABORATORY.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — Owing to the indisposition of Professor Jackson, the course in descriptive chemistry (Chemistry 1) was given last year by Professor Sanger. The full course in industrial chemistry (Chemistry 11) was conducted by Dr. Pringsheim, who also met once a week a small number of students for the purpose of reading original German publications. Owing to the large amount of ground to be covered in lectures and laboratory work in organic chemistry (Chemistry 5), it was thought best to divide the course into two parts. Dr. Torrey therefore gave the lectures under the head of Chemistry 5 and offered a new half-course, extending throughout the year, Chemistry 5a, devoted to laboratory work. Course 5a is open only to those who take Course 5. A half-course in general biological chemistry was established and conducted by Dr. Lawrence J. Henderson (A.B. 1898, M.D. 1902). Dr. Lewis was granted leave of absence for two years, and the course in advanced physical chemistry (Chemistry 14), conducted by him for the last two years, was not given. The half-courses in electro-chemistry (Chemistry 7 and 13), formerly in charge of Dr. Lewis, were given by Dr. R. C. Wells (A.B. 1901, Ph.D. 1904).

The number of students in the several laboratory courses during the year, and in June, 1904, were as follows : —

	October, 1904.	January 1st, 1905.	June 1st, 1905.	June 1st, 1904.
Chemistry 1 . . . . .	382	367	334	334
Chemistry 3 . . . . .	139	131	117	112
Chemistry 4 . . . . .	35	34	31	37
Chemistry 5 . . . . .	..	..	..	37
Chemistry 5a . . . . .	40	39	34	..
Chemistry 6 . . . . .	18	16	17	22
Chemistry 9 . . . . .	28	27	..	..
Chemistry 10 . . . . .	..	..	20	14
Chemistry 12 . . . . .	6	6	..	..
Chemistry 13 . . . . .	..	..	4	6
Chemistry 20a . . . . .	..	..	..	1
Chemistry 20b . . . . .	4	4	4	6
Chemistry 20c . . . . .	3	3	3	3
Chemistry 20d . . . . .	6	6	7	4
Chemistry 20e . . . . .	1	1	1	3
Chemistry 20f . . . . .	5	5	4	2
Chemistry 20g . . . . .	..	..	..	2
	<u>667</u>	<u>639</u>	<u>576</u>	<u>583</u>

GEORGE R. SHAW, and C. S. SARGENT, and 25 quarto plates from drawings by C. E. FAXON. Houghton, Mifflin & Co. April, 1905.

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Chemistry 9 . . . . .	28	27	..	..
Chemistry 10 . . . . .	..	..	20	14
Chemistry 12 . . . . .	6	6	..	..
Chemistry 13 . . . . .	..	..	4	6
Chemistry 20a . . . . .	..	..	..	1
Chemistry 20b . . . . .	4	4	4	6
Chemistry 20c . . . . .	3	3	3	3
Chemistry 20d . . . . .	6	6	7	4
Chemistry 20e . . . . .	1	1	1	3
Chemistry 20f . . . . .	5	5	4	2
Chemistry 20g . . . . .	..	..	..	2
	<u>667</u>	<u>639</u>	<u>576</u>	<u>588</u>



The number of students in the courses in which no laboratory work is given were as follows:—

	October, 1904.	January 1st, 1905.	June 1st, 1905.	June 1st, 1904.
Chemistry 2 . . . . .	91	88	..	..
Chemistry 5 . . . . .	43	43	42	..
Chemistry 7 . . . . .	..	..	13	15
Chemistry 8 . . . . .	..	..	63	43
Chemistry 11 . . . . .	37	35	31	12
Chemistry 14 . . . . .	..	..	..	4
Chemistry 15 . . . . .	..	..	84	..
Total number of students under instruction . . . . .	838	805	759	657

The general increase in the number of laboratory and lecture courses since 1900–01 has brought a proportional increase in the number of advanced and research students. The prospect of having still larger numbers of these students in 1905–06 made it necessary to provide accommodations which could not be found in Boylston Hall, which, as emphasized in previous reports of the Directors, had been taxed to the utmost ingenuity. Accordingly, during the past summer, this need of space has been temporarily met by fitting up, at considerable expense, the basement and lower room of Dane Hall, west, formerly occupied by the Coöperative Society, as quarters for the course in qualitative analysis (Chemistry 3), and by adapting the space thus released in Boylston Hall to the needs of advanced and research students. We shall be able to provide sufficient working space for elementary students for a few years yet; advanced students will find room, though inadequate, but it is doubtful if we can offer proper accommodation for research men, at the present rate of increase, unless at the expense of other students or by exchanging additional space in Dane Hall.

The library and reading-room of the Department has proved during the last year, as expected, to be a valuable help to research students and a stimulus to others. We continue to receive gifts of books and journals from Professor Wolcott Gibbs, and a permanent fund for books has been given. This fund, which is known as the Book Fund of the Class of 1881, is given by that class as part of their memorial subscription to the University, on the occasion of their twenty-fifth anniversary, and amounts to about \$3,200. The income is to be expended for the purchase of books under the direction of the Director of the Chemical Laboratory.

The following investigations were carried on during the year:—

Professor C. L. Jackson, with Mr. F. W. Russe, continued the study of tetrabromorthoquinone; the quinhydrone was investigated,

and progress was made in the work on that perplexing subject, the acetic acid compounds. With Mr. R. D. MacLaurin the tetrachlororthoquinone was studied which acts in a much more complex way than the bromine compound. Seven products of its action with methyl alcohol have been identified. With Mr. M. C. Boswell the action of chloride of iodine on pyrocatechine was taken up; this led to complex products containing both iodine and chlorine. The study of the bromine addition compounds of dimethylaniline with Mr. Latham Clarke was completed, making the series of these compounds almost complete. Also, the nature of rosocyanine was determined, and the formula of curcumine essentially established.

Professor Richards finished, with the help of Dr. R. C. Wells, the investigation on the equivalent weights of sodium and chlorine in common salt, proving without doubt that Stas's silver was impure and that the usually accepted atomic weights of both sodium and chlorine were in error. Further, they analyzed pure sodic bromide, obtaining results confirming those with the chloride. They found also the transition temperature of crystallized sodic bromide, and showed that it is suitable for fixing a point ( $50.675^{\circ}$ ) on the thermometric scale. With the assistance of Dr. W. N. Stull, Professor Richards studied, by their new methods, the compressibilities of the elements and a number of simple compounds. The results all verify predictions based upon the theory of compressible atoms. The compressibilities of the elements are periodic, like their other properties. With Mr. G. S. Forbes, Professor Richards studied the electromotive effects of amalgams; and with Messrs. G. E. Behr, Jr., and R. W. Kent, the electromotive effects of metals under various conditions, aiming at great precision. With Mr. B. S. Lacy he investigated electrostenolysis, and certain anomalies of the calomel electrode. He has devised a new method for avoiding the calorimetric cooling correction, which has been carefully tested by Dr. L. J. Henderson, working with the Berthelot bomb. With the help of Mr. R. F. Jackson he has investigated specific heats, hoping to obtain more accurate data to serve as a basis for thermodynamic reasoning, and with the help of Mr. F. G. Jackson tested a new method for verifying thermometers below the freezing point. Professor Richards himself has been engaged not only in atomic weight investigations, but also in many other related experiments suggested by the work described above. All these investigations have been greatly assisted by a third annual grant of \$2,500 from the Carnegie Institution of Washington.

Dr. Torrey completed his work on the action of ethylene dibromide on para nitroso dimethylaniline. With Mr. W. H. Hunter he continued the study of derivatives obtained from bromanil and chloranil with potassic iodide in acetone solution, and with Mr. H. B. Kipper the investigation of nitrooxybenzophenones. With Mr. A. H. Pierce the study of the action of substituted hydrazines on various quinones was begun.

Dr. Baxter completed the investigation upon the atomic weight of iodine begun during the previous year. The final average from five ratios was 126.985 ( $Ag = 107.930$ ) for the value of this constant. He also began a determination of the atomic weight of bromine. Under Dr. Baxter's direction the following researches were carried on: Mr. M. A. Hines completed a determination of the atomic weight of manganese by the analysis of manganous bromide, and obtained as a final result the value 54.953. Mr. Hines also finished the analysis of cadmium chloride, which was begun the previous year. The value for the atomic weight of cadmium thus obtained was 112.47. This result was exactly confirmed by Mr. Hines during the past summer by the analysis of cadmium bromide, — an investigation which was undertaken and partially completed by Mr. H. L. Frevert during the college year. In addition to this work Mr. Frevert studied the determination of iron by permanganate in the presence of hydrochloric acid. Mr. R. C. Griffin perfected the method of determining phosphoric acid by means of ammonium phosphomolybdate, and investigated carefully the composition of the latter substance. He also began a study of the rare earths. Mr. C. H. Hickey devised a new method for preparing pure nitrogen, studied the determination of ammonia by distillation and also the titration of carbonates in the presence of phenolphthaleïn, and determined the vapor tension of iodine at ordinary temperatures. Mr. R. A. Hubbard showed the occlusion of soluble oxalates by calcic oxalate and the solubility of ferric hydroxide in ammonia to be negligible for analytical purposes. He also investigated the cathodic solution of platinum during the electrolysis of cyanides, and determined the solubility of potassium permanganate at ordinary temperatures. Mr. J. E. Zanetti studied the determination of oxalic acid by permanganate in the presence of hydrochloric acid. During the summer session Mr. O. F. Black investigated further the titration of carbonates with phenolphthaleïn, and Mr. E. Mueller determined the refractive index of potassium chloride solutions of various concentrations. Dr. Baxter received a further grant of \$1,000 from the Carnegie Institution of Washington for the continuance of atomic weight researches.

The following papers were published during the year : —

1. On certain Sulphamido Derivatives of Furfurane. By H. B. HILL and J. P. SYLVESTER. *Am. Chem. Journ.*, XXXII, 185.
2. On the Action of Potassic Nitrite on Mucobromic Ester. By H. B. HILL and O. F. BLACK. *Am. Chem. Journ.*, XXXII, 228.
3. On the Optically Active Isomers of the  $\beta$ -Dihydrofurfurane- $\alpha\alpha$ -Dicarboxylic Acid. By H. B. HILL and F. W. RUSSE. *Am. Chem. Journ.*, XXXIII, 372.
4. On certain Derivatives of the 1-, 3-, 5-Triiod-, 2-, 4-Dinitrobenzol. By C. LORING JACKSON and J. F. LANGMAID. *Am. Chem. Journ.*, XXXII, 297.
5. Ueber das Verhalten des Tetrabrom-o-benzochinons gegen Ketone und Aldehyde. Von C. LORING JACKSON und F. W. RUSSE. *Ber. d. deutsch. chem. Gesell.*, XXXVIII, 419.
6. Note on the Preparation of certain Amines. By LATHAM CLARKE. *Am. Chem. Journ.*, XXXIII, 496.
7. A Revision of the Atomic Weight of Strontium. Second Paper, The Analysis of Strontic Chloride. By THEODORE W. RICHARDS. *Proc. Am. Acad.*, XL, 603.
8. Note on the Efficiency of Centrifugal Purification. By THEODORE W. RICHARDS. *Journ. Am. Chem. Soc.*, XXVII, 104.
9. Electrostenolysis and Faraday's Law. By THEODORE W. RICHARDS and BURRITT S. LACY. *Journ. Am. Chem. Soc.*, XXVII, 232.
10. A Revision of the Atomic Weights of Sodium and Chlorine. By THEODORE W. RICHARDS and ROGER CLARK WELLS. *Journ. Am. Chem. Soc.*, XXVII, 459 to 529; *Zeit. für anorg. Chem.*, XLVI, 56; *Carnegie Institution of Washington*, Pub. 28.
11. New Methods of Determining the Specific Heat and the Reaction-Heat of Liquids. By THEODORE W. RICHARDS and ARTHUR B. LAMB. *Proc. Am. Acad.*, XL, 659.
12. The Elimination of Thermometric Lag and Accidental Loss of Heat in Calorimetry. By THEODORE W. RICHARDS, LAWRENCE J. HENDERSON, and GEORGE S. FORBES. *Proc. Am. Acad.*, XLI, 3; *Zeit. für phys. Chem.*, LII, 5.
13. Thermal Expansion of Hydrogen and Carbon Dioxide under Constant Pressure. By THEODORE W. RICHARDS and KENNETH L. MARK. *Proc. Am. Acad.*, XLI, 117.
14. On the Dissociation of Phenoquinone and Quinhydrone. By HENRY A. TORREY and H. HARDENBERGH. *Am. Chem. Journ.*, XXXIII, 167.
15. Ueber die Einwirkung von Jodkalium auf Bromanil und Chloranil. Von HENRY A. TORREY und W. H. HUNTER. *Ber. d. deutsch. chem. Gesell.*, XXXVIII, 555.
16. A Revision of the Atomic Weight of Iodine. Second Paper. By G. P. BAXTER. *Proc. Am. Acad.*, XLI, 73; also *Journ. Am. Chem. Soc.*, XXVII, 876, and *Zeit. für anorg. Chem.*, XLVI, 36.

17. A Revision of the Atomic Weight of Cadmium. By G. P. BAXTER and M. A. HINES. *Journ. Am. Chem. Soc.*, XXVII, 222.

18. Pure Nitrogen from Nitrous and Nitric Oxides and Ammonia. By G. P. BAXTER and C. H. HICKEY. *Am. Chem. Journ.*, XXXIII, 300.

19. The Determination of Oxalic Acid by Permanganate in the Presence of Hydrochloric Acid. By G. P. BAXTER and J. E. ZANETTI. *Am. Chem. Journ.*, XXXIII, 500.

20. The Determination of Ferrous Iron by Permanganate in the Presence of Hydrochloric Acid. By G. P. BAXTER and H. L. FREVERT. *Am. Chem. Journ.*, XXXIV, 109.

21. Autocatalytic Decomposition of Silver Oxide. By GILBERT N. LEWIS. *Prôc. Am. Acad.*, XL, 719; *Zeit. für phys. Chem.*, LII, 310.

22. Hydratation in Lösung. By GILBERT N. LEWIS. *Zeit. für phys. Chem.*, LII, 224.

The crowded condition of Boylston Hall, as each year passes without substantial relief, becomes more and more pressing. We cannot rely any longer on alterations in Boylston Hall. The use of Dane Hall, as noted above, may answer as a temporary provision, but the building is not suitable for research students owing to its situation, while to use it for any students is only to increase the irrational division of equipment and of administration. Even if this were done, and the space thus vacated in Boylston Hall adapted to other purposes, it would only be at great expense and inconvenience. The problem is a serious one and threatens the growth and usefulness of the Division. There is no adequate solution except the construction of a new, properly equipped and endowed laboratory.

CHARLES R. SANGER, *Director.*

## THE JEFFERSON PHYSICAL LABORATORY.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — The problem of conducting successfully large divisions in a physical laboratory has been largely solved in the Jefferson Physical Laboratory by great attention to improved methods and appliances, and above all by the employment of instructors who are also investigators, and who bring to their work an enthusiasm rarely found in assistants who merely teach what is found in text-books.

The variety of subjects which have engaged the attention of the members of the Department and the Graduate Students, a variety which is illustrated by the list of researches given below, is very significant; and the Director believes that this variety is unique in university physical laboratories both in Europe and America. In most physical laboratories the work of research is dominated by the interests of the director in some one branch of investigation, or is determined by the skill of some assistant as a glass blower or worker with tools. Liberality in intellectual directions is certainly highly desirable in a university laboratory, and is an evidence of a good mechanical equipment which enables graduate students to work successfully in fields which especially interest them. This variety of directions of research during the past year in the Laboratory embraces the subjects of mathematical physics, wireless telegraphy, spectrum analysis, luminescence, and thermodynamics.

There is no subject in physical science which may not, in time, have an important bearing upon the welfare of humanity; for we exist by a proper observance of the laws of physics. It is interesting, therefore, to note, even in a laboratory where the work has not an immediate commercial bearing, the influence of theoretical study upon practical applications of science. The work of Professor B. O. Peirce in magnetism is a good illustration of this. A certain type of measuring instrument, used in all physical laboratories and in many commercial applications of electricity, has hitherto been made of steel, and has cost from forty to fifty dollars. Professor Peirce has shown that cast iron, properly tempered, can be used instead of steel, thus reducing the cost to perhaps five dollars per instrument, or even less, and securing also a medium practically uninfluenced by changes of temperature. Dr. G. W. Pierce has shown in his

researches on the possibility of Tuning Wireless Telegraph Circuits, that the usual earth connections employed in such circuits can be supplanted, often to great advantage, by conductors parallel to the ground and insulated from it. Professor Sabine has extended his work in Acoustics so as to embrace the study of the absorption of sound of various wave lengths, and his work enables him to predict the acoustical properties of an auditorium from a mere inspection of its plan. The confidence felt by the physicist that all work in the accurate observation of physical phenomena will, in time, be of use to humanity is one of the strongest incentives to continue in the arduous path of physical research. The work of Professor Hall in Thermodynamics is of especial interest when we consider the fundamental importance of this branch of physical science. The growing use of ultra violet rays in therapeutics, strongly illustrated by the employment of microscopes provided with quartz and fluorspar lenses which enables the observer to dispense with staining gelatine in the study of bacilli, indicates the importance of Dr. Lyman's researches on short waves of light. The studies of Dr. Morse in luminescence compel us to take new bearings in this highly important subject which relates to the production of light by an apparently small amount of energy.

The following papers have been published during the past year :—

1. Spectra from the Wehnelt Interrupter. 1. By HARRY W. MORSE. *Astrophys. Journ.*, Vol. 19, No. 3.

2. The Van der Waals  $a$  in Alcohol and Ether. By EDWIN H. HALL. *Boltzmann Festschrift*, 1904.

3. Preliminary Measurements of the Short Wave Lengths discovered by Schumann. By THEODORE LYMAN. *Astrophys. Journ.*, Vol. 19, No. 4.

4. Some Elementary Theorems Concerning the Steady Flow of Electricity in Solid Conductors. By B. O. PEIRCE. *Annals of Mathematics*, Series 2, Vol. 5, No. 4.

5. Experiments on Resonance in Wireless Telegraph Circuits. Part 1. By G. W. PIERCE. *Phys. Rev.*, Vol. 19, No. 3.

6. Tentative Theory of Thermo-Electric Action. By EDWIN H. HALL. *Proc. A. A. A. S.*, Vol. 54.

7. A Manometer Device for Air Thermometers. By HAROLD EDWARDS. *Proc. Am. Acad.*, Vol. 40, No. 13.

8. Notes on the Resistance Measurements in Platinum Thermometry. By HAROLD EDWARDS. *Proc. Am. Acad.*, Vol. 40, No. 13.

9. Spectra of Weak Luminescences. By HARRY W. MORSE. *Astrophys. Journ.*, Vol. 21, No. 2.

10. Viscosity of Air. By J. L. HOGG. *Proc. Am. Acad.*, Vol. 40, No. 18.

11. A P Q Plane for Thermodynamic Cyclic Analysis. By HARVEY N. DAVIS. *Proc. Am. Acad.*, Vol. 40, No. 19.

12. Experiments on Resonance in Wireless Telegraph Circuits. By GEORGE W. PIERCE. *Phys. Rev.*, Vol. 20, No. 4.

13. Spectra from the Wehnelt Interrupter. 2. By HARRY W. MORSE. *Astrophys. Journ.*, Vol. 21, No. 3.

14. Measurements of Various Thermal and Electrical Effects, especially the Thomson Effect in Soft Iron. By EDWIN H. HALL, Messrs. CHURCHILL, CAMPBELL, and SERVISS. *Proc. Am. Acad.*, Vol. 41, No. 2.

15. Side Discharges of Electricity. By JOHN TROWBRIDGE. *Am. Journ. Sci.*, Vol. 20, July, 1905.

The most important step which should be taken by the University for the continued growth of the Physical Laboratory is a large increase in its endowment. There is no physical laboratory in America which has a million-dollar endowment; yet this amount of endowment cannot be considered excessive when one considers how fundamental in science is the study of Mechanics, Light, Heat, Electricity, and Magnetism.

JOHN TROWBRIDGE, *Director.*



THE DIVISION OF ENGINEERING.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — I respectfully submit the following report on the Division of Engineering for 1904–05.

The work of the Division has been very satisfactory so far as the limitations fixed by the resources of the University have permitted.

The following table shows the total enrolments in engineering courses and half-courses for the past five years, and the percentage of enrolments of students not registered in the Scientific School : —

	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
Total enrolments in engineering courses	1954	2014	2095	2274	2263
Number of Scientific School students .	1635	1633	1582	1654	1670
Number of students not registered in					
Scientific School . . . . .	319	381	513	620	593
Percentage of Academic students . .	16.3	18.9	24.5	27.3	26.2

It will thus be seen that about one-fourth of the instruction offered by the Engineering Division is given to students who are not registered in the Scientific School.

The following table indicates the relative proportions of students in engineering taking their degrees with distinction in 1904 as compared with the students graduating in Harvard College : —

	College Degrees.	Engineering Degrees.
Without distinction . . . . .	.. 303	.. 19
Cum laude . . . . .	76	8
Magna cum laude . . . . .	39	1
Summa cum laude . . . . .	4	..
	— 119	— 9
Total . . . . .	422	28
Percentage with distinction . . . . .	28.2	32.2

By this it is shown that 32 per cent. of the students enrolled graduated with distinction in engineering, and 28 per cent. in the College. This is in spite of the fact that the work in engineering is prescribed and covers twenty and one-half courses, whereas the work in the College is elective and covers seventeen courses.

The Division has endeavored to give students during their three upper years as much instruction in professional engineering as possible, treating the first, or Freshman, year as merely preparatory. To this end, elementary mechanics has been placed in the second

year parallel to the course in calculus. The development of this course by Professors Johnson and Huntington has been particularly interesting and effective. It promises to solve a very difficult problem in connection with the preparation of students for really advanced work in their third year. The chief obstacle in the way of making the course efficient has been the large number of students without adequate assistance in the class-room. Much has been accomplished by Professor Johnson in giving two consecutive hours to the instruction instead of the customary one hour of lectures or recitation. There are thus three periods of two hours each during the week. The first part of each period is allotted to lectures which may be from half an hour to one hour in length; the second part is spent in a large draughting room over problem work under the eye of the instructor. This arrangement of hours has been adapted with great profit to several other courses. If the tabular view of studies under the Faculty of Arts and Sciences permitted its extension to all the courses in engineering, the effectiveness of instruction could be greatly improved.

Attention has already been called in previous reports to the insufficiency of the teaching staff for the work demanded in the class-rooms and laboratories. The time of professors is too much occupied with recitations and routine instruction to permit serious research, perhaps the most important occupation of a first-rate professional school. It hardly requires argument to demonstrate the effect of good laboratory work as a stimulus to students of a profession involving the use of machinery and materials. Good students should be encouraged to spend a large amount of time, if possible, after graduation, in the laboratories under the direction of professors with the leisure to give to investigation. It is just along this line that a great development must take place if the University is to place engineering on the high plane now occupied by law and medicine. At present, the several laboratories have only a respectable start. Electrical engineering is fairly well equipped for elementary instruction, but mechanical engineering still suffers from a lack of proper machinery, and civil engineering would gain much by a considerable addition to the laboratories for hydraulics and for testing materials. The laboratory for mechanical engineering requires a much greater diversity of machinery and is naturally slower of development.

At present, the instruction in craft work is given to Harvard students in the Cambridge Manual Training School, where the machinery must necessarily remain of a somewhat simple type, adapted to the

use of boys under eighteen years of age. The time must soon come when the University should have its own shops, fitted with the most modern machinery, where students and professors could make their own apparatus, and where students could learn the elements of various trades. A great field lies before the Division when sufficient money is available for the extension of all its laboratories, including the workshops.

In view of the fact that large means may be available for engineering in a few years, a brief reference to the general subject of organization may not seem out of place. The combination of professional with undergraduate work is not calculated to develop the spirit necessary to make a great professional school. The Law and Medical Schools have long since emancipated themselves from academic control, if they were ever subject to such control. Their courses of studies are directed entirely by professional men freed from the complication of undergraduate tabular views and from an elective system devised for the general education of young men. This kind of a separation seems absolutely necessary if engineering is to reach its proper position in the University, and the time would seem ripe for it. Whether the professional school in which the engineering degrees may be given shall be a graduate department in the sense of requiring an academic degree for admission, or not, may be left to the future. Under any circumstances, the course of studies should be of graduate grade, excepting, perhaps, in those subjects which form a natural link between undergraduate work and the practical applications of science to engineering construction, such, for instance, as calculus.

There are certain difficulties in the way of accepting a degree as conclusive evidence of a student's fitness to begin the study of applied science. In Harvard, the Bachelor's degree may have been obtained without any advanced mathematics, so that a graduate may be no better fitted for beginning mechanics, the foundation of engineering, than the graduate of a good high school, except in point of maturity and breadth of culture. This would seem to make necessary certain definite requirements and an examination for admission independent of the degree. Engineering occupies a position differing somewhat from that occupied by law and medicine in the fact that it is an application of mathematics, physics, and chemistry, usually studied in an undergraduate department, to commercial and practical affairs. Where the line between the preparatory and the advanced, or graduate, studies should be drawn is largely a matter of opinion. Up to the present time, most schools

of engineering include all the mathematics above geometry and trigonometry in their schedule of studies for the degree. The nature of the requirements for admission to the course of studies, and the subsequent course, could safely be left to be determined by a professional board.

In extending the laboratories it would always be well to provide for the admission of special students qualified to pursue investigations of a scientific character, and to give them every facility for their work. A large following of such students would add much to the product of the laboratories.

The instruction at the Summer Camp on Squam Lake was successful from all points of view. The two lots of land added to the estate by gift of Mr. J. J. Higginson and Mr. J. J. Storrow increased the efficiency of the surveying courses by bringing the field of all operations within easy reach of headquarters. A new building was also erected for a draughting and examination room. A sewage disposal plant was constructed; an acetylene lighting plant was installed for the draughting room and administration buildings; and a water supply from a large spring was brought to the buildings in pipes.

The total number of students in attendance at the Camp was one hundred and fifty, the same as in the preceding year. The above-mentioned improvements made it possible to carry on instruction with much greater convenience and effectiveness than heretofore. A course in history and a course in economics were announced to be given at the Camp, but the number of students applying for these courses was not sufficient to render them successful. An accurate map of the Squam Lake district, obtained from triangulation, was prepared and published, the work being wholly carried out by students.

During the year Professor C. A. Adams was absent on leave, and Mr. G. A. Anderegg acted efficiently as a substitute. Mr. J. A. Moyer's resignation in the middle of the year was a serious loss to the Division. His industry and interest in his work had been of great value to the students during the entire period of his connection with the University.

The following papers were published during the year: —

The Induction Motor. By C. A. ADAMS. *Harvard Engineering Journal*, November, 1904, and April, 1905.

A Study in the Design of Induction Motors. By C. A. ADAMS. *American Institute of Electrical Engineers*, June, 1905.

Reactance E. M. F. and the Design of Commutating Machines. By C. A. ADAMS. *Electrical World and Engineer*, August 26, 1905.

Map of the Squam Lakes, N. H. By H. J. HUGHES. 1905.

A Set of Postulates for Real Algebra. By E. V. HUNTINGTON. *Transactions of the American Mathematical Society*, Vol. 6, January, 1905.

Note on the Definitions of Abstract Groups and Fields by Sets of Independent Postulates. By E. V. HUNTINGTON. *Transactions of the American Mathematical Society*, Vol. 6, April, 1905.

A Set of Postulates for Ordinary Complex Algebra. By E. V. HUNTINGTON. *Transactions of the American Mathematical Society*, Vol. 6, April, 1905.

The Continuum as a Type of Order: An Exposition of the Modern Theory. With an Appendix on the Transfinite Numbers. By E. V. HUNTINGTON. *The Annals of Mathematics*, Vol. 6, July, 1905; Vol. 7, October, 1905. Also published as a separate pamphlet by the Publication Office of Harvard University.

New Data on the Weight of a Crowd of People. By LEWIS J. JOHNSON. Boston Society of Civil Engineers, December 21, 1904.

Discussion of C. C. Schneider's paper on "Structural Design of Buildings." By LEWIS J. JOHNSON. *Transactions of American Society of Civil Engineers*, Vol. LIV, 1905.

Signs for Compressive and Tensile Stress. By LEWIS J. JOHNSON. *Engineering News*, Vol. LIII, 1905.

Mechanism. By F. L. KENNEDY. 1905.

Mechanical Drawing. By F. L. KENNEDY and A. E. NORTON. 1905.

The "Balancer" as Employed in Multiple-Voltage Direct-Current Systems. By A. E. KENNELLY. *Harvard Engineering Journal*, January, 1905.

On Direct-Current Balancers. By A. E. KENNELLY and S. E. WHITING. *Electrical World and Engineer*, January 7, 1905.

A Working Diagram of the Alternating-Current Synchronous Motor. By A. E. KENNELLY. *Electrical World and Engineer*, January 28, 1905.

The Metric System of Weights and Measures. By A. E. KENNELLY. *Popular Science Monthly*, February, 1905.

Some Tests of Tantalum Lamps. By A. E. KENNELLY and S. E. WHITING. *Electrical World and Engineer*, March 25, 1905.

A Diagram of the Circuits of the Dynamotor. By A. E. KENNELLY and S. E. WHITING. *Electrical World and Engineer*, June 3, 1905.

On a Method of Potential Regulation Based on the Different Resistance Behavior of Carbon and Tantalum Lamps. By A. E. KENNELLY and S. E. WHITING. *Electrical World and Engineer*, July 1, 1905.

Transactions of the International Electrical Congress of St. Louis, 1904; Vols. I, II, and III. Edited by A. E. KENNELLY, published April, 1905.

Gas and Oil Engines: An Introductory Treatise. By L. S. MARKS. Armour Institute of Technology.

Test of the Power Plant of the Cambridge Electric Light Company. By L. S. MARKS. *Harvard Engineering Journal*, January, 1905.

Laboratory Notes of an Elementary Course in Electrical Engineering. Parts I, II, and III. By S. E. WHITING. 1905.

I. N. HOLLIS.

## THE PSYCHOLOGICAL LABORATORY.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR : — The work in the Psychological Laboratory during the last year was largely influenced by the expectation of the better equipped and more suitable laboratory in Emerson Hall. Much of the attention of the laboratory staff was indeed devoted to the preparation of the new Institute. As the generosity of an anonymous friend has made it possible to provide the nearly completed laboratory with the best instruments in the field of experimental psychology, and as such equipment needs the work of the mechanics through a long period beforehand, much activity was needed for securing in time the complete apparatus with which the Emerson Hall laboratory will begin its work. We had to select the best new models of kymographs, tachistoscopes, chronoscopes, photometers, sonometers, stereopticons, etc. In the same way the manifold problems of the arrangement of the laboratory rooms and their electrical and mechanical appliances had to be worked out. Professor E. B. Holt and Dr. R. M. Yerkes succeeded in devising methods by which each room will attain its highest usefulness, while at the same time almost all of the twenty-five rooms are adjusted beforehand to special purposes, including the purposes of animal psychology, for which a wing of the laboratory is to be fitted up.

In spite of this anticipatory activity, the work in the old laboratory in Dane Hall went on undisturbed, and the research work was extremely productive. It can be most directly characterized by the fact that it yielded six Doctor dissertations, of which five have been accepted by the Department as completely satisfactory for the degree. These five accepted doctor-theses are the following : Mr. B. T. Baldwin examined in his experiments the influence of a multitude of starting points for the various trains of associations. His investigation, carried on in the Harvard laboratory for several years with fifteen Graduate Students as subjects, throws new light on the mutual influences of intellectual impulses and may be not only of theoretical psychological, but also of practical pedagogical, value. Mr. C. H. Johnston made a valuable contribution to the psychophysical analysis of feelings. Starting with the old problem, whether more than one feeling at a time can become developed in

consciousness, he studied the effect of combining several stimuli of various feeling tone, after carefully training his subjects in the observation of the feeling symptoms. His painstaking experiments yielded plentiful results, which led to an original theory of feelings and their bodily expression. Mr. J. E. Rouse completed his thesis on the psychology of pigeons, which had engaged his full time for a number of years. His experiments refer partly to the expression of emotions in birds under the various influences of surroundings, with special reference to the subtle changes of respiration, partly to the phenomena of imitation and memory in such animals. The brilliant work of Miss E. H. Rowland dealt with the aesthetics of repetition in the visual field. The experiments which analyzed the pleasure produced by variations of repetition under most different conditions were done with constant reference to the development of architecture, and the practical application of the psychological laws of repetition to the columns, arches, etc., in works of art. Mr. C. L. Vaughan concentrated his work on the motor power of impressions with special reference to their complexity, studying the inhibitory powers and the energy of reaction under the influence of optical impressions of various complexities. All these investigations will appear in the second volume of the Harvard Psychological Studies, with the exception of a part of Dr. Rouse's thesis, which has appeared in the *Journal of Comparative Neurology and Psychology*. It may be emphasized that every one of these five papers stands in relation to the work done in this laboratory in earlier years, and is to some extent a continuation of it. The laboratory secures in this way a certain unity of purpose, which is more and more recognized in the critical reviews dealing with the laboratory publications.

Besides these accepted Doctor dissertations, the following more important researches may be mentioned. Mr. L. E. Emerson completed his investigation into the nature of melody by studying the aesthetic effects of intervals between tones which stand in no musical relation, using tones different by four vibrations only. Miss F. H. Rousmaniere began pioneer studies in the field of logical feelings. Her experiments referred to the feeling of certainty and the relation of its various shades to the objective correctness of judgment. Mr. F. M. Surrey completed his examination of the influence of tension and strain on the fusion and misplacement of tactual sensations. Dr. F. M. Urban, who started with research on the influence of feeling on the pulse, was led by his experiments to a general study of the pulse curve, and finally to a new theory of blood-vessel activity and its relation to the psychical influence. Mr. K. T.



Waugh examined the influence of voluntary movements on the products of visual imagination and of visual memory. Dr. E. B. Holt, who published a number of theoretical papers during the year, continued his experiments on visual anesthesia, with special reference to the phenomena of dizziness. Dr. R. M. Yerkes, who published a number of contributions to animal psychology in the *Journal of Comparative Neurology and Psychology*, completed his important investigations concerning the inhibition and reënforcement of reaction in the frog. Dr. Yerkes and Dr. Urban together were further engaged in an experimental investigation of various influences on the estimation of time. As a very large number of subjects was needed for this research, the work partly transcended the limits of the laboratory and was carried on in various class-rooms, and with the coöperation of teachers of psychology in other colleges. Another investigation, which was essentially made outside of the laboratory, mostly in school-rooms, but which got its experimental technique through our laboratory, was that of Mr. H. A. Miller, who made comparative tests on various groups of children, and whose experimental work has also been accepted as a thesis for the Doctor's degree. Several of these investigations will appear also in the *Harvard Psychological Studies*.

The various courses related to experimental psychology have been carried on in the same way as in foregoing years. A change has been tried only in the Summer School courses of Dr. Yerkes, which covered a larger ground this time than ever before.

HUGO MÜNSTERBERG,  
*Professor of Psychology.*



## THE OBSERVATORY.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—The present condition of the Observatory is that of an institution with superabundant opportunities for additional investigations, but with its income fully expended on necessary work, much of which is routine. A slight increase in income would permit work to be greatly extended, while a slight decrease would cause a great reduction in the scientific output. Not only are the expenses large in an institution of this size, but much time and money are required for the care of the collection of 182,277 photographs, a collection that is unique, and gives the only existing history of the stellar universe for the past twenty years. The case is similar to that of almost any successful industrial undertaking, a shop, a hotel, a theatre, a railway, or a steamship. If a steamship line is just paying its expenses, a moderate increase in the patronage will greatly increase the profits, while the expenses will be nearly as great if the boats are run without a single passenger.

The Anonymous Gift of \$20,000 in 1902, which is now completely expended, illustrates the return which may be expected from even a moderate addition to our resources. By means of this gift, a three-story wing was added to the building containing the astronomical photographs. This wing is thirty feet square, of brick, and fireproof. The main story alone will store conveniently 91,000 photographs, and provide room for examining and studying them. The great Common reflector of sixty inches aperture has been purchased, mounted, and housed, two twenty-four inch reflectors have been purchased, and one of them has been mounted.

The grant of \$2,500, by the Carnegie Institution in 1903, illustrates the immediate return to be expected from a small additional expenditure. A corps of ten computers was employed, organized, and disbanded in a single year, and yet the vast amount of material described in Circular 71 was accumulated. Had the work been continued a second year, one of the results attained by it would have been the discovery of the fourteen hundred variable stars described below.

For these reasons, it is believed that the sum of \$50,000 could be expended here to great advantage during the next few years, with results quite out of proportion to its amount.

The urgent needs of this Observatory render it none the less important to maintain the policy of aiding international astronomical research. There must be persons who desire to aid Astronomy who would like to do so with the assistance of the most skilful experts in all parts of the world. The only objection hitherto raised to this plan, that Harvard would acquire undue influence, could be easily and satisfactorily remedied by placing the funds under the control of other astronomers. The only essential condition is that it should be administered absolutely fairly, and expended so as to secure the greatest possible scientific return. The broad scheme of Kapteyn, for the study of the faint stars, is an excellent example of the results to be expected from a moderate expenditure. The small fund at present available here for international research has already led to the formation of the Western Association of Astronomical Photography, and to other uses which are none the less efficient though it seems best that their exact application should not be made public. The efficiency has been greatly increased by the fact that the grants can be made at once, and without burdensome restrictions.

#### OBSERVATORY INSTRUMENTS.

*East Equatorial.* — Nearly all of the observations with this instrument have been made by Professor O. C. Wendell, and have been of the same general character as in previous years. Over thirteen thousand photometric light comparisons have been made, principally with the polarizing photometer with achromatic prisms. A large part of the measures relate to stars of the Algol type, and serve to determine their light curves and times of minima. The observation of many stars of doubtful variability has also been continued. Measures have been made of four asteroids, to determine the variation, if any, in their light. From 1580 measures of Eunomia (15), it appears that this asteroid varies by about half a magnitude, in a period of  $3^h 24^m.5$ . With a second photometer, adapted to the measurement of adjacent stars, measures have been made of  $\alpha$  Ceti and of several double stars. Seventeen eclipses of Jupiter's satellites have been observed photometrically, making 785 in all. 448 settings have also been made to determine the brightness of the four principal satellites of Jupiter.

*Meridian Circle.* — The determination of the final constants for the reduction of the zone observed between  $-9^\circ 50'$  and  $-14^\circ 10'$

has been continued. The investigation of the residuals in declination of the fundamental stars, mentioned in the last report, has been completed, and the required formulae of correction have been determined. No further investigation of this kind is at present contemplated. The reduction of the fundamental stars is now complete for the years 1888 and 1889, about half completed for 1890, and about two thirds completed for 1896, 1897, and 1898. It has still to be made for 1891 and 1892. When the final constants for all the zones have been prepared, it is intended to construct tables for the separate zones, by means of which the provisional places of the zone stars may be converted into final places. Miss S. C. Bond has continued the reduction of the observations made by the late Professor Rogers during the years 1879 to 1883.

*12-inch Meridian Photometer.* — With this instrument 81,284 settings have been made by the Director, on 148 nights. In all, 511,276 settings have been made in seven years with this instrument. The measurement of all the Durchmusterung stars in zones 10' wide, at intervals of 5°, has been completed, from the North Pole to declination — 20°. A large part of the time, during the last year, has been devoted to measuring sequences of comparison stars, from the eighth to the thirteenth magnitude, near variable stars of long period, and to measuring the absolute magnitudes of stars used in the differential work in progress here. The total number of settings with the 2-inch Meridian Photometer is 94,476; with the 4-inch, 1,085,284.

#### HENRY DRAPER MEMORIAL.

The number of photographs taken with the 11-inch Draper Telescope was 1,001, making 16,031 in all; with the 8-inch Draper Telescope, 1,333, making the total number 33,427. The entire number of photographs of the stars taken at Cambridge during the year is 6,161. Eighteen eclipses of Jupiter's satellites and eight occultations of stars by the Moon have been successfully photographed with the 11-inch Draper Telescope. Three of these occultations have been photographed on a plate revolving in its own plane. The apparatus is, in fact, a chronograph in which the stellar image is the pen. The nature of the disappearance, whether instantaneous or gradual, can thus be studied. The work of classifying and studying in detail the spectra of stars of about the fifth magnitude has been continued. 611 photographs have been taken, and 820 spectra, mainly fainter than those discussed in Volume XXVIII, have been classified by Miss Cannon. The most important result derived from

these plates has been the discovery, by Mrs. Fleming, of Nova Aquilae No. 2, the eighth new star found here from the study of stellar spectra. Besides this, mainly from the study of the photographs taken with the 8-inch telescopes, she has found 19 new variable stars, 2 stars of the fourth type, 2 of the fifth type, 6 in which the hydrogen lines are bright, 2 gaseous nebulae, and 7 in which the spectra are peculiar; that the variable star R Cygni is sometimes of the third, and sometimes of the fourth type, and that the hydrogen lines are bright in the spectra of the known variable stars, X Andromedae, Y Andromedae, S Arietis, X Camelopardali, R Orionis, V Camelopardali, X Aurigae, X Geminorum, V Geminorum, — Ursae Majoris, Y Draconis, R Leonis Minoris, W Leonis, T Ursae Minoris, W Coronae, W Lyrae, RW Lyrae, UX Cygni, RR Pegasi, and W Ceti. One of the new variables, — 27°623, is of the Algol type, and varies by four magnitudes, a greater range than that of any other star of this class, as yet discovered. One new variable was found by Miss Leland, one by Miss Breslin, and the Director found that the star  $\lambda$  Cephei has a spectrum like that of  $\zeta$  Puppis.

The general plan of taking the photographs, as described in previous reports, has been maintained under the direction of Mr. King. The developer in regular use here is rodinal. It was suggested, *Annals*, Volume LIII, page 98, that better results could be obtained with hydrochinon. A careful investigation failed to confirm this result, and although ortol appeared to be slightly better than either, the difference was not sufficient to justify a change. Measures of the photographic brightness of the sky, due to electric lights, have been made at Ossipee, North Lexington, Concord, Waverley, Arlington Heights, Cambridge, and Boston Common, with results which may be expressed by the numbers 23, 33, 36, 50, 52, 100, and 242, respectively. The fact that the sky at Cambridge is three times as bright as at points only a few miles distant suggests that it may be necessary in the future to establish an auxiliary observing station for the northern stars.

#### BOYDEN DEPARTMENT.

On March 18, 1905, Professor Bailey returned to Cambridge, leaving the Arequipa station in charge of Mr. R. H. Frost, the senior assistant. The number of photographs taken during the year with the 13-inch Boyden Telescope is 212, making 11,093 in all; with the 8-inch Bache Telescope 2,032, making 37,036 in all. The total number of stellar photographs taken during the year is 4,136.

Measures have been made on 37 nights with the Meridian Photometer, on 52 nights with the Rumford Photometer, and on 25 nights with the double star photometer, both of the last two instruments being attached to the 13-inch Boyden Telescope. References to various portions of the work done at Arequipa will be found in other sections of this report.

#### BRUCE PHOTOGRAPHIC TELESCOPE.

The number of photographs taken with the Bruce Photographic Telescope is 523, of which 27 had an exposure of four hours. The total number of Bruce plates is 7,504. Miss Leavitt has continued her study of these photographs and has discovered from them 1,129 new variable stars, 909 being in the Small Magellanic Cloud, making the total number in its vicinity 966. The systematic determination of the positions, the selection of the comparison stars, measures of their positions and magnitudes, and the determination of the magnitudes of all the variables on a large number of plates has been begun. Another investigation, by Professor W. H. Pickering, has led to the discovery of a tenth satellite of Saturn, Themis, having a period of about twenty-one days. It is sometimes brighter and sometimes fainter than Phoebe, and the latter appears to be variable. Excellent measures of Phoebe have been obtained with the Lick Reflector, but no images of Themis are known to have been found elsewhere, one difficulty being that with a telescope powerful enough to photograph it, the image of Saturn is likely to have a diameter as great as that of the orbit of Themis. The minor planet Ocllo (475), discovered in 1901, at the Arequipa Station, was an object of especial interest, as the eccentricity of its orbit was the greatest known, thus rendering it in this respect the connecting link between the asteroids and the periodic comets. There was danger that this object would be lost, since observations supposed to relate to it, made in 1903 at Heidelberg and in 1904 at Arequipa, proved to relate to another object. Several photographs, however, were obtained in 1905 with the Bruce Telescope which will determine its future path with certainty.

#### BLUE HILL METEOROLOGICAL OBSERVATORY.

The work has been carried on, as during the past twenty years, under the direction and at the expense of Mr. Rotch. Data were obtained during 17 kite-flights on the days of each month appointed for international observations in the upper air, the average of the highest altitudes obtained in each flight being 6,940 feet above sea-

level, and the maximum in any flight, 11,180 feet. The observations with *ballons-sondes* despatched from St. Louis, mentioned in the last report, were continued during the winter and summer by Messrs. Clayton and Fergusson, the cost of the latter ascensions being defrayed by a grant from the Hodgkins Fund of the Smithsonian Institution. All but five of the instruments used in the 35 ascensions were returned, one of them recording in January the extremely low temperature of  $-111^{\circ}$  Fahrenheit at a height of 48,700 feet. In coöperation with the Trappes Observatory, near Paris, a joint expedition was sent last summer on a steam-yacht to the eastern Atlantic, for the purpose of exploring the atmosphere above the northeast trade-wind. Mr. Clayton, who represented the Blue Hill Observatory, executed six kite-flights on a steamer between Boston and Gibraltar and nineteen other flights on the yacht, to within nine degrees north of the equator. The existence of the return trade-wind, blowing from a general southerly direction at a considerable height, was demonstrated by the trajectories of the *ballons*. During the total solar eclipse of August 30, meteorological observations were made by Mr. Rotch at Burgos, Spain, in connection with observations obtained there in *ballons*, and near Corunna, with kites.

To protect the Observatory against the encroachment of the public, it has been enclosed by a wall and fence.

#### MISCELLANEOUS.

*Variable Stars.* — So much work on variable stars is now in progress here that it seems best to describe it in a separate section in this report. The bibliography, now being compiled by Miss Cannon, as stated in previous reports, was nearly ready for publication, when a Committee was appointed by the Astronomische Gesellschaft to undertake a similar work. This places the Observatory in an awkward position, but as the work here contains much unpublished material, it is believed that it should be published although in a more abridged form than would have been adopted but for this needless duplication. A Provisional Catalogue of 1227 variable stars was published by Miss Cannon in 1903, and two annual supplements have been published since then, with the intention of issuing a complete catalogue early in 1906. It appears from this that about 225 variables were known in 1886, when our photographic work began. Since then, about 555 variables have been discovered elsewhere, and 2,197 at this Observatory. Mainly by means of the bright hydrogen lines in their spectra, 8 novae and 197 variables have been found by Mrs. Fleming; 509 in globular clusters by

Professor Bailey, and 1,442 by Miss Leavitt, mainly in the Magellanic Clouds. In 1889, sixteen sequences were selected for circumpolar variables of long period, and the photometric magnitudes of all of the stars in them were determined. Each variable was compared with a brighter and a fainter star in its sequence, at least once a month, by Argelander's method. This work was soon after extended to 53 other variables, and the results for all, from 1899 to 1902, were published in the *Annals*, Volume XXXVII. This has been greatly extended during the last year by Mr. Leon Campbell, so that the working list now includes 309 variables. He has made 2,171 observations of these objects with a 5-inch telescope and 223 with the 24-inch Reflector. Seven Algol variables and fourteen asteroids have also been observed. Miss Cannon has made 1,290 observations with the 6-inch West Equatorial. The approximate magnitudes of these variables have been communicated each month to *Popular Astronomy*, and published in that journal. To aid this work, 1,095 observations have been communicated by other observers, 278 from Vassar, 211 from South Hadley, 200 from the University of Virginia, 11 from Princeton, 265 from Mr. J. H. Eadie, and 130 from Señor Pereira. For several years, similar observations have been made at the Arequipa Station of 50 variable stars south of declination  $-30^\circ$ . 554 observations have been made of these stars during the last year, by Messrs. Manson and Wyeth. Sequences have been selected for about two hundred of the variables discovered here from their spectra. Measures of the brightness of these stars on all the photographs on which they appear are being made, mainly by Miss Leland and Miss Breslin. It is most important to know whether the magnitudes of the comparison stars given in Volume XXXVII can still be safely used. Corrections were accordingly computed for them from the observations of the last fifteen years, and were found on the average to amount to only  $\pm 0.08$  magnitudes. This method of determining magnitudes, therefore, appears to be abundantly accurate. A comparison of photographs with nearly a hundred manuscript charts of variable stars, to detect discrepancies, has been made by Mrs. Fleming at the request of Father Hagen. The variability of the star has been confirmed independently by comparison with other photographs in each of these cases, and also for 113 other variables which have been enlarged to a scale of  $20'' = 0.1$  cm., and furnish charts which are extremely convenient in observing these objects.

*Needs of the Observatory.*—The needs of the Observatory are nearly the same as those stated last year. Fireproof buildings.



should be provided for the library, for the photographic laboratory, and for the workshop. They need not be large or expensive, and such buildings, like those in the College Yard, should have names assigned to them, and would form admirable memorials. The study of the astronomical photographs should be placed on a permanent basis. The sum of \$5,000 could well be expended annually in this work. About \$3,000 of it could be used for routine observers who would receive twenty-five or thirty cents an hour. \$1,000 should be used for more skilled assistants to supervise and prepare the material for the printer. \$1,000 should be used for publication. In this way, a vast amount of valuable material could be secured which should be promptly published in the *Annals*. Meanwhile, the material for several other volumes is accumulating, and should be published at once, or its value will be greatly diminished.

The assistants of the Observatory, some of whom have been here for many years, ought to have a gradual increase in salary. It is very hard for men or women, who begin when young to put their best energy into a work, to find after a few years, when it is too late to change their occupation, that as their expenses increase, there is not a corresponding increase in salary. This is especially the case in a subject like Astronomy, in which the number of similar positions is limited. As the Observatory is wholly dependent on its own funds, and receives no aid from those of the University, the princely gifts of the alumni, last year, for increasing the salaries of the teachers under the Faculty of Arts and Sciences, are not available for the officers of the Observatory.

Doubtless the future endowments of the Observatory may be large, but these do not provide for our present needs. It has been shown above that an immediate expenditure could be made to great advantage. It is unfortunate that year after year we should be unable to avail ourselves of opportunities now existing.

*Longitude Campaign.* — At the request of the Canadian Government, a longitude campaign was successfully conducted last summer between the observatories of Ottawa and Harvard. The important series of longitude determinations carried on by the Canadian Government, and extending completely around the world, has thus been connected with the extensive system in which the Harvard Observatory has taken part. Especial interest attaches to this work, since it was the first use at this Observatory of the transit micrometer, an instrument which has revolutionized longitude determinations. All the observations at Cambridge were made by Dr. Otto Klotz of the Canadian Survey, as with this instrument it is not necessary to



exchange observers. A small transit building was erected for this work after consultation with Dr. Klotz and the superintendent of the United States Coast and Geodetic Survey.

*St. Louis Exposition.* — The exhibit of the Observatory has been safely returned from St. Louis and a *grand prix* was awarded it, as in the case of the exhibit sent to Paris in 1900.

*Library.* — The Library of the Observatory has been increased by 318 volumes and 2,505 pamphlets. The total numbers of volumes and pamphlets in the Library on October 1, 1905, were 11,459 and 24,474, respectively. This collection, one of the finest of its kind in the world, is in constant danger of destruction by fire, and is scattered through the rooms of the Observatory. A suitable building to contain it is one of our most urgent needs.

*Telegraphic Announcements.* — During the last year, 39 bulletins have been issued, the largest number so far, making 198 in all. Of these bulletins, twelve were received from the Lick Observatory, eleven from Professor Kreutz, five from the Lowell Observatory, one or two each from five other sources, and four originated from this Observatory. The bulletins are sent gratuitously to such institutions, newspapers, and individuals as desire them and are likely to make use of them. In general, when a cipher telegram is received at the Observatory, it is translated, printed upon the bulletin sheets by an autographic process, and mailed within an hour of the receipt of the original message. Several persons are prepared to take charge of the distribution, so that, in the absence of one, another is available. The distribution of the announcements by telegraph is continued to subscribers who wish to pay for the messages.

Astronomers are requested, as heretofore, to send announcements of their discoveries to this Observatory for transmission to the observatories of Europe and America. To secure prompt attention, it is requested that all cablegrams be addressed "Observatory, Boston," and all telegrams "Harvard College Observatory, Cambridge, Mass." All correspondence relating to telegrams and announcements should be addressed to the Director.

*Publications.* — Volume XLVIII, No. 10; Volume LIII, Nos. 5, 6, 7, 8, and 9; Volume LVI, Nos. 1, 2, and 3; and Volume LVIII, Part I, have been printed and distributed this year. 35 pages of Volume XXXIX, Part II, Peruvian Meteorology, 1891 to 1895; 28 pages of Volume LIII, No. 10, Early Observations of Eros (433); 29 pages of Volume LIV, Durchmusterung Zones observed with the 12-inch Meridian Photometer; 42 pages of Volume LVIII, Part II, Blue Hill Meteorological Observations, 1903 and 1904, have been

put in type. The first forty-six Volumes of the *Annals*, and also Volumes XLVIII and LI, are therefore completed and distributed, with the exception of Volume XXXIX. Although no progress has been made in printing Volumes XLVII, XLIX, and LII, much has been accomplished in their preparation and the completion of Volume XXXIX may be expected soon.

The number of circulars issued this year, nineteen, is greater than in any previous year. Hitherto the average number has been ten. The numbers, titles, and dates are as follows:—

88. A New Algol Variable. —15° 4905. October 7, 1904.
89. The November Meteors of 1904. November 26, 1904.
90. 105 New Variable Stars in Scorpius. December 8, 1904.
91. Sixteen New Variable Stars in Sagittarius. December 8, 1904.
92. Stars having Peculiar Spectra. December 21, 1904.
93. The 24-inch Reflecting Telescope. March 13, 1905.
94. Variability of Eunomia (15). April 8, 1905.
95. Brightness of Jupiter's Satellites. April 11, 1905.
96. 843 New Variable Stars in the Small Magellanic Cloud. April 12, 1905.
97. Bruce Photographs of Planets. April 20, 1905.
98. Stars having Peculiar Spectra. Spectra of known Variables. May 5, 1905.
99. A Probable New Star, RS Ophiuchi. May 15, 1905.
100. Variable Stars in the Clusters Messier 3 and Messier 5. May 9, 1905.
101. Positions of Ocllo (475) during 1904. June 27, 1905.
102. Positions of Phoebe in May, 1905. July 1, 1905.
103. Positions of Ocllo (475) during 1905. July 15, 1905.
104. H 1174. A New Algol Variable, 035727. July 28, 1905.
105. A. G. C. 6886. Star having a Large Proper Motion. September 21, 1905.
106. H 1175. Nova Aquilae, No. 2. 185604. September 23, 1905.

Besides the more important publications which have been described above, numerous minor publications have been made by the officers of the Observatory.

EDWARD C. PICKERING, *Director*.

## THE MUSEUM OF COMPARATIVE ZOÖLOGY.

TO THE PRESIDENT AND FELLOWS OF HARVARD COLLEGE:—

Throughout the academic year, 1904–05, eleven courses in Zoölogy were given, by Professors Mark, Jackson, Parker, and Castle, and Dr. Rand, to students in Harvard University, and four courses to students of Radcliffe College. The assistants in the University courses were Messrs. M. W. Blackman, L. J. Cole, Manton Cope-land, N. C. Davis, I. A. Field, A. D. Howard, and H. E. Walter; in those given for Radcliffe College, Mr. A. S. Pearse and Miss Edith N. Buckingham. During the summer, seven students carried on work at the Laboratory of the U. S. Fisheries Bureau at Wood's Hole, and twelve persons, six connected with Harvard University, availed themselves of the facilities offered by the Bermuda Biological Station for research. The incomes of the Humboldt Fund and the Virginia Barret Gibbs Fund have been applied, as in late years, for the benefit of students connected with the Zoölogical Laboratory.

In the Department of Geology and Geography, Professor Davis, as Sturgis-Hooper Professor of Geology, conducted two courses, one of research elected by two students, and a second, open to graduates and undergraduates, given to fifteen students. Mr. Isaiah Bowman was assistant in the second course. The geological courses, other than those of Professor Davis, were given by Professors Shaler, Jackson, Ward, Woodworth, and Jaggar, and Dr. Smith, assisted by Messrs. A. H. Gale, Augustus Locke, G. R. Mansfield, H. E. Simpson, and S. A. Starratt. These courses, nineteen in number, were attended by 460 students of Harvard University; the four courses in Radcliffe College were taken by 40 students. In the Summer School, Professor Shaler and Dr. Smith of the Geological Department, and Professor J. E. Woodman of Dalhousie College, Halifax, gave two courses to eighteen students. Professor J. B. Woodworth's course in advanced field work in the Rocky Mountains of Montana was taken by three students.

The Museum is indebted to Messrs. Bangs, Brewster, Faxon and Woodworth for the care they have taken of the collections under their charge. The accompanying special reports give the details as to the additions received and the work accomplished during the year.

Of the collections received, mention should be made of the valuable series of Vertebrates from Gorgona Island, Colombia, the Pearl Islands, Bay of Panama, and from the vicinity of the city of Panama, presented by Mr. John E. Thayer, and of the collections, chiefly entomological, presented by Mr. A. A. Packard. Mr. Packard's father, the late Professor A. S. Packard, a graduate of the Lawrence Scientific School, and a student of, and assistant to, the founder of this Museum, was connected for many years (1867-1878) with the Peabody Academy of Science of Salem, and later, from 1878 until his death in February, 1905, with Brown University. Professor Packard bequeathed to the Museum a complete set of his scientific publications, other than books, and left the disposition of his collections to his son. Throughout his life, Professor Packard was an ardent accumulator of material and a prolific author. His collections, with many types, gathered during his residence in Salem, have been the property of the Museum since 1885, and Mr. Packard, recognizing the advantages to his father's fame and to future investigators, has given the Museum the collections amassed by his father since 1878. We are also indebted to Messrs. Allen, Barbour, and Bryant for the larger part of the specimens collected during their explorations of the Bahamas; to Mr. Addison Gulick for a series of Bermudian land shells, fossil and recent, and to Professor W. W. Coe for a number of Nemerteans from the west and northwest coasts of America.

The specimens selected for the Exhibition room devoted to the Palaeozoic faunae, have been arranged, and the room has been opened to the public during the past year. The three cases on the south wall of the room are filled with Vertebrates; the other wall cases and those of the central floor space, equal in all to twenty-seven cases, are given over to the Invertebrates. The richness of the Museum collections in Palaeozoic fossils will make this room, when the material is completely mounted and labelled, fairly representative of the older faunae, and of much general interest. The casing of the Exhibition room for the Mesozoic faunal collections has been completed, and a beginning made in the selection of representative species. The floor case shows the cast of *Iguanodon bernissartensis*, from the Wealden of Belgium, as the central feature, with casts and portions of the skeletons of Dinosaurs and of Vertebrates, other than Fishes, around it. The Fishes and a few other Vertebrates occupy the wall cases on the north side of the room, while the Invertebrates will be displayed in the cases on the south side, and in the large table cases on the east and west sides. Con-

siderable wall space, outside of the cases, is used for many of the more bulky Vertebrates. To the African faunal room there has been added, by purchase from Rowland Ward, a fine male of the South African Ostrich, *Struthio australis*, and a magnificent male Hippopotamus from the Mosello River, Zambesi; the latter, an excellent example of modern taxidermy, is nearly maximum size for the species, and, with the Giraffe received in 1903, makes an effective exhibition of two characteristic African Mammals. The principal other additions to the exhibition collections consist of the Reptiles mounted by the Museum preparator, Mr. George Nelson; of these, twenty-eight have been added, the more notable being a group of the Mexican Heloderma, *H. horridum*; one of the Bahama Iguana, *Cyclura baeolopha*, and a fine Boa, *B. constrictor*. For the Boa and the Iguanas we are indebted to the interest of Mr. Thomas Barbour; the Helodermas were obtained in exchange from the American Museum of Natural History.

The U. S. Fish Commission Steamer "Albatross," under the command of Lieut. Commander L. M. Garrett, U. S. N., was placed at the disposal of Mr. Agassiz, and was occupied with deep-sea work in the Eastern Tropical Pacific from October, 1904, until March, 1905. Mr. Agassiz was accompanied by Professor C. A. Kofoid of the University of California, Mr. H. B. Bigelow, and Mr. Magnus Westergren of the Museum. The cruise extended from San Francisco to Panama, from Panama to the Galapagos, and thence to Aguja Point. From Aguja Point, the "Albatross" worked towards the western edge of the Chili-Peruvian Current, then east through the Milne Edwards Deep to Callao. Leaving Callao on December 3d, Easter Island was reached on the 15th. Considerable shore work was done at Easter Island, and on January 3, 1905, the "Albatross" arrived at Wreck Bay, Chatham Island, Galapagos. From Wreck Bay, the cruise continued to Magna Reva, and from that place to Acapulco, which was reached February 24th. Mr. Agassiz's letters, written during the voyage, have been published in the Bulletin, Vol. 46, No. 4. They give a preliminary report of the cruise; a more extended account, with charts and illustrations, will be published in an early issue of the Memoirs. The collections arrived safely and have been distributed to thirty-four specialists. The reports on the scientific results will appear chiefly in the Bulletins and Memoirs of the Museum.

The library of the Museum consists of 41,157 volumes and 35,033 pamphlets; the accessions for the year are 1,982 volumes and 1,607 pamphlets.

The publications for the year include two volumes and one number of the *Memoirs*, one volume and nine numbers of the *Bulletin*, and the *Annual Report*. The two volumes of the *Memoirs* (Volumes 30 and 31) contain the Reports on the collection of Panamic deep-sea Echini by Mr. Agassiz, and the Starfishes by Professor Ludwig, made by the "Albatross" expedition of 1891. Together, these volumes make one of the most extensive publications that the Museum has yet issued. Mr. Springer's Memoir on *Cleioocrinus* describes and figures, in detail, one of the earliest of known Crinoids, and one of most intricate structure. Of the nine numbers of the *Bulletin*, four numbers contain reports on the scientific results of the expeditions of the "Albatross," two on the one of 1891, and two on the recent cruise in the Eastern Tropical Pacific; one number is a report upon some of the results of Mr. Agassiz's expedition to the Maldives; one is a contribution from the Zoölogical Laboratory, and one a contribution from the Geological Laboratory; one number deals with Museum collections, and one volume and one number are based primarily on Museum collections. The Corporation has granted an appropriation of \$350, to assist in the publication of contributions from the Zoölogical and Geological Laboratories, and Mr. Agassiz's generous interest provides for the publication of the *Memoirs* and *Bulletins* which contain the reports on the scientific results of the expeditions connected with his work.

The appointment of Professor Hubert Lyman Clark, as assistant in Invertebrate Zoölogy, supplies a long-felt want; there is, however, urgent need for assistants in Invertebrate Palaeontology, in Entomology, and in Ornithology.

SAMUEL HENSHAW.

## THE ZOÖLOGICAL LABORATORY.

TO THE PRESIDENT OF THE UNIVERSITY: —

SIR, — Tables showing the enrolment of students in Zoölogical courses by classes in the three Departments under the charge of the Faculty of Arts and Sciences and in Radcliffe College are printed in the annual reports of the Museum of Comparative Zoölogy.

Dr. Alexander Petrunkévitch, who was approved as Docent in Zoölogy to lecture on Cytology in the second half-year, was compelled by serious family sickness to leave Cambridge in the middle of the year, and was therefore unable to give the course. Otherwise the instruction given did not differ from that of the preceding year, except in so far as concerned alternating courses.

Diagrams and demonstration material used principally in Courses 1 and 2, which had hitherto been arranged in cases on the fourth floor, were transferred to the first-floor lecture-room and renumbered to correspond with their places in new cases. This resulted in saving time both to the instructors and the janitor.

After the announcement of courses in Zoölogy for 1904–05 had been issued (in July, 1904) an arrangement was made which allowed the Department to retain the services of Dr. H. W. Rand. The serious curtailment of the work in Zoölogy which had been impending — necessitating the withdrawal of Course 13 and the reduction of Zoölogy 3 to a half-course, to be given by Professor Parker — was thus averted, and it was possible to restore the courses to the same form which they had had in previous years.

The lectures in Zoölogy 1 were given by Professor Parker, who, as usual, gave systematic attention to supervising the laboratory work and to the training of the assistants who aided him in this important part of the course. The chief assistant in the course in Harvard University was Mr. Leon J. Cole, Austin Teaching Fellow; the sub-assistants were Messrs. H. E. Walter, M. Copeland, and N. C. Davis. In Radcliffe College the chief assistant was Mr. A. S. Pearse, the sub-assistant, Miss Edith N. Buckingham. Owing to the loss in previous years of a certain amount of microscopic apparatus, it was decided to institute an inspection of this apparatus at the close of each laboratory period. This resulted in entirely preventing such loss.

In Zoölogy 2, by Professor Castle, the lectures were increased to forty, and a certain amount of time each week was devoted to oral



reviews of topics discussed in previous lectures. More time than heretofore was also given by the instructor to personal supervision of the laboratory exercises, thus enabling him to become better acquainted with the work of individual students. Mr. A. D. Howard, Austin Teaching Fellow, was chief assistant in the course, and Mr. M. W. Blackman was sub-assistant.

Zoölogy 3, possibly owing to the announced change in its nature and the subsequent restoration of it to its former scope, was not so largely elected as in the preceding year. One graduate took the work for the first half-year without being enrolled; on the other hand, three of those enrolled were dropped before the end of the year. The plan of devoting occasionally a lecture hour to a conference on previous work, instead of a formal lecture, resulted in giving to some of the poorer students an increased interest in the work, and is thought by the instructor, Dr. Rand, to be worthy of further trial. A new edition of the Outline of the Laboratory Work in this course was prepared by Dr. Rand and published by the Harvard Coöperative Society. This outline on the "Comparative Anatomy of Vertebrates," originally prepared by Professor Parker, has been revised and considerably amplified by Dr. Rand in the new edition. The assistant in this course was Mr. I. A. Field.

Zoölogy 4 and 5 were given substantially as in the preceding year, Dr. Rand having charge of the laboratory work and giving in Course 4 a few of the lectures on the anatomy and histology of the Hirudinea.

Zoölogy 8 and 9 were given by Professor Jackson. Several specimens useful for students in Palæozoölogy were purchased from Ward's Natural Science Establishment, and others were received from students in the Department.

Six of the eleven students enrolled in Zoölogy 10, under Professor Castle, were allowed to take the lectures without laboratory work, and to count this as a half-course. The remaining five were occupied with the investigation of special problems, mainly questions of inheritance, and the results of their studies will be presented later for publication. Two of the five met the laboratory requirements of this course by giving additional time to the work selected for investigation in Zoölogy 20. Contribution 164 was based on work done in part in connection with this course in a previous year.

In Zoölogy 13, by Professor Parker, both lectures and laboratory exercises were substantially the same as in 1903-04; but in Zoölogy 16 the lectures were thoroughly revised. The laboratory work in Course 16 consisted, as heretofore, of separate research topics. In



four cases these were identical with the topics of the same students in Zoölogy 20. In some of the other seven cases the results reached are to be presented for publication. Contributions from the Zoölogical Laboratory numbered 161 and 162 represent work done in this course or its companion course (Zoölogy 15), and 163 is based on experiments conducted under the supervision of Professor Parker at the Laboratory of the U. S. Fisheries Bureau at Wood's Hole.

Fifteen students pursued research problems in Zoölogy 20, three under the direction of Professor Castle, four under Professor Parker, seven under Professor Mark, and one under Professors Parker and Mark jointly. As already stated, in the case of six of the students working under the direction of Professors Parker and Castle, the laboratory requirements of the more formal courses were met by devoting the laboratory time to the research work of Zoölogy 20. Mr. M. W. Blackman completed two papers, one of which he presented as a thesis for the Doctor's degree, the other being on "The Spermatogenesis of the Myriapods. IV. On the Karyosphere and Nucleolus in the Spermatocytes of *Scolopendra subspinipes*."

The work of several students is nearly ready for publication and that of others is well advanced.

The degree of Doctor of Philosophy was conferred in June, 1905, on Mr. Maudslayi Willett Blackman, whose thesis was entitled "The Spermatogenesis of the Myriapods. III. The Spermatogenesis of *Scolopendra heros*."

Besides giving critical supervision to all the papers appearing as Contributions from the Zoölogical Laboratory and from the Bermuda Biological Station for Research, Professor Mark has published an address prepared for Section F (Zoölogy) of the American Association for the Advancement of Science, the title of which appears in the list of Contributions from the Bermuda Station.

Professor Jackson has published the following articles: (1) Charles Emerson Beecher. *Amer. Nat.*, Vol. 38, pp. 407-426. Portrait. June [Aug.] 1904. (2) The Protection of Native Plants. *Trans. Mass. Hortic. Soc. for 1904*, pp. 111-119. (3) Notes on the Cultivation of Peonies. *Ibid.*, pp. 141-157, figs. 1-4. (4) John Richardson: his House and Garden. *Ibid.*, pp. 159-202, pls. 1-14, figs. 5-10. (5) Professor Packard's "Lamarck: his Life and Work." *Psyche*, Vol. 12, pp. 36-38, April, 1905.

Professor Parker has published the following papers: "Maldivian Cephalochordates," *Bull. Mus. Comp. Zool.*, Vol. 46, No. 2, pp. 39-52, 2 pls.; "The Function of the Lateral-Line Organs in Fishes," *Bull. U. S. Bureau Fisheries*, Vol. 24, pp. 183-207; No.

157 of the *Contributions* from this Laboratory; in collaboration with Mr. S. A. Starratt, No. 155 of the same *Contributions*, and in collaboration with Miss Adele M. Fielde, "The Reactions of Ants to Material Vibrations," *Proc. Acad. Nat. Sci. Philadelphia*, 1904, pp. 642-650.

Professor Castle has continued his studies on inheritance in guinea-pigs and rabbits. He has published, in addition to No. 158 of the *Contributions* from this Laboratory, an address, given before the American Society of Naturalists at its meeting in Philadelphia, on "The Mutation Theory of Organic Evolution, from the Standpoint of Animal Breeding," *Science*, Vol. 21, pp. 521-525, April 7, 1905.

Dr. Rand has published three papers in the *Contributions* from this Laboratory, Nos. 156, 165, and 166, the second in conjunction with Mr. J. L. Ulrich. He also supervised the work the results of which are embodied in *Contribution* No. 167.

Dr. Petrunkévitch has published, as No. 160 of the *Contributions* from this Laboratory, a paper on "Natural and Artificial Parthenogenesis" presented before Section F (Zoölogy) of the American Association for the Advancement of Science at its meeting in Philadelphia. It is a matter of deep regret to the Department that Dr. Petrunkévitch is compelled to remove from Cambridge and give up his connection with the Laboratory.

The Virginia Barret Gibbs Scholarship was reassigned for 1904-05 to Mr. John H. McClellan.

Of the five persons carrying on work at Wood's Hole during the summer of 1904, two received aid from the Humboldt Fund to the amount of \$22.85, and of the six working at the Bermuda Station one received from the same source \$70.

During the summer of 1905 seven students carried on work at the United States Fisheries Bureau in Wood's Hole, three of them being employed as assistants in the work of the Bureau.

Five students received aid in the summer of 1905 from the Humboldt Fund, amounting to \$132.85, four while working at Wood's Hole, and one at Cambridge.

Professors Castle and Mark have received renewals of grants from the Trustees of the Carnegie Institution of Washington to aid in the study of questions in heredity.

The meetings of the Zoölogical Club were held on the afternoons of Mondays throughout the year, and the topics under discussion were announced in the *Calendar*. There were twenty-five meetings, and fifty-five papers were presented; thirty-two of them were summaries of original work.

Three numbers of the *Contributions from the Bermuda Biological Station for Research* have been published since those recorded in the report for 1904-05 :

- No. 4. COE, W. R. — The Anatomy and Development of the Terrestrial Nemertean (*Geonemertes agricola*) of Bermuda. *Proc. Bost. Soc. Nat. Hist.*, Vol. 31, No. 10, pp. 531-570. Pls. 23-25. November, 1904.
- No. 5. BIGELOW, H. B. — The Shoal-Water Deposits of the Bermuda Banks. *Proc. Amer. Acad. Arts and Sci.*, Vol. 40, No. 15, pp. 557-592. 4 maps. February, 1905.
- No. 6. MARK, E. L. — The Bermuda Islands and the Bermuda Biological Station for Research. *Proc. Amer. Assoc. Adv. Sci.*, Fifty-fourth Meeting. Separates, 32 pp., 16 pls., issued February, 1905.

Professor Parker was appointed Acting Director of the Bermuda Biological Station for Research for the summer of 1905. Besides Mr. John F. Cole, who carried on for the Station magnetic observations during the months of March and April, there were twelve biologists enrolled. Of these, seven were University instructors, three in Harvard and one each in the University of Pennsylvania, the University of Cincinnati, Washington (State) University, and Syracuse University.

The conditions which necessitated retrenchment during the year 1903-04 still continue, and weigh heavily on the Department.

It is proposed to amplify somewhat in the future the instruction in some of the courses by presenting in alternate years different portions of the fields now more or less completely covered each year. For the coming year Professor Mark's lectures on Embryology of Vertebrates will be devoted to Organogeny (Zoölogy 6), leaving the Early Stages of Development (Zoölogy 5) for 1906-07. In like manner Professor Parker's lectures on Comparative Histology will deal with Epithelial and Nervous Tissues in 1905-06, and with Muscular and Sustentative Tissues the following year. Professor Castle proposes to divide each of his alternating courses (Zoölogy 10 and 11) into half-courses (10*a*, 10*b*, 11*a*, 11*b*), which may be taken separately, and to change somewhat the ground covered. Course 11*a*, to be given in the first half of the coming year, will be devoted to Variation, Heredity, and the Principles of Animal Breeding. Course 11*b*, in the second half-year, will deal with the Natural History of Domesticated Animals. The half-courses alternating with these are to be: (10*a*) Influences of the Environment on Animal Form, and (10*b*) The Nature and Causes of Sex.

CONTRIBUTIONS FROM THE ZOÖLOGICAL LABORATORY  
FROM JULY 1, 1904, TO JUNE 30, 1905.

152. ALLEN, G. M. — The Heredity of Coat Color in Mice. *Proc. Amer. Acad. Arts and Sci.*, Vol. 40, No. 2, pp. 59–163. July, 1904.
153. SARGENT, P. E. — The Optic Reflex Apparatus of Vertebrates for Short-circuit Transmission of Motor Reflexes through Reissner's Fibre; its Morphology, Ontogeny, Phylogeny, and Function. — Part I. The Fish-like Vertebrates. *Bull. Mus. Comp. Zoöl.*, Vol. 45, No. 3, pp. 127–258. 11 pls. July, 1904.
154. MAST, S. O. — A Simple Apparatus for Aërating Liquid Solutions. *Amer. Nat.*, Vol. 38, No. 453, pp. 655–660. September [October], 1904.
155. PARKER, G. H., and STARRATT, S. A. — The Effect of Heat on the Color Changes in the Skin of *Anolis carolinensis* Cuv. *Proc. Amer. Acad. Arts and Sci.*, Vol. 40, No. 10, pp. 455–466. November, 1904.
156. RAND, H. W. — The Behavior of the Epidermis of the Earthworm in Regeneration. *Arch. f. Entwicklungsmechanik*, Bd. 19, No. 1, pp. 16–57. Taf. 1–3. February, 1905.
157. SMALLWOOD, W. M. — The Maturation, Fertilization, and Early Cleavage of *Haminea solitaria* (Say). *Bull. Mus. Comp. Zoöl.*, Vol. 45, No. 4, pp. 259–318. 13 pls. December, 1904.
158. CASTLE, W. E. — Heredity of Coat Characters in Guinea-Pigs and Rabbits. *Publ. Carnegie Inst. Washington*, No. 23. 78 pp. 6 pls. February, 1905.
159. PARKER, G. H. — The Reversal of Ciliary Movement in Metazoans. *Amer. Jour. of Physiol.*, Vol. 13, No. 1, pp. 1–16. February, 1905.
160. PETRUNKÉVITCH, A. — Natural and Artificial Parthenogenesis. *Amer. Nat.*, Vol. 39, No. 458, pp. 65–76. February [March], 1905.
161. SMITH, G. — The Effect of Pigment-Migration on the Phototropism of *Gammarus annulatus* S. I. Smith. *Amer. Jour. of Physiol.*, Vol. 13, No. 3, pp. 205–216. April, 1905.
162. CARPENTER, F. W. — The Reactions of the Pomace Fly (*Drosophila ampelophila* Loew) to Light, Gravity, and Mechanical Stimulation. *Amer. Nat.*, Vol. 39, No. 459, pp. 157–171. April, 1905.
163. PETERS, A. W. — Phosphorescence in Ctenophores. *Jour. of Exp. Zoöl.*, Vol. 2, No. 1, pp. 103–116. April, 1905.
164. HAHN, C. W. — Dimorphism and Regeneration in *Metridium*. *Jour. of Exp. Zoöl.*, Vol. 2, No. 2, pp. 225–235. May, 1905.
165. RAND, H. W., and ULRICH, J. L. — Posterior Connections of the Lateral Vein of the Skate. *Amer. Nat.*, Vol. 39, No. 462, pp. 349–364. June, 1905.
166. RAND, H. W. — The Skate as a Subject for Classes in Comparative Anatomy; Injection Methods. *Amer. Nat.*, Vol. 39, No. 462, pp. 365–379. June, 1905.
167. ROMEISER, T. H. — A case of Abnormal Venous System in *Necturus maculatus*. *Amer. Nat.*, Vol. 39, No. 462, pp. 391–396. June, 1905.

E. L. MARK, *Director*.

## DEPARTMENT OF GEOLOGY AND GEOGRAPHY.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — The Chairman of the Department of Geology and Geography has the honor to submit the following report for the year 1904–05.

There have been no changes during the year in the staff of instructors. Dr. P. S. Smith, in addition to his work as instructor in charge of Geology *A*, acted as assistant in Courses 4 and 5. The other assistants in the Department were Mr. H. E. Simpson, in Courses *A* and *B*; Mr. S. A. Starratt, in Courses 11 and 14; Mr. G. A. Mansfield, in 22; Messrs. A. H. Gale, Augustus Locke, and F. H. Sawyer, student-assistants in 5; and Mr. I. Bowman, in Course 6. At the end of the year Mr. Simpson left Cambridge to engage in teaching geology at Colby College, Maine, and Mr. Bowman entered upon similar duties at Yale University.

As in former years, the Department arranged with the Summer School Committee for the giving of an elementary course in Dynamical Geology at the University in the summer of 1905, which was conducted by Professor Shaler and Dr. J. E. Woodman, now of Dalhousie University. An elementary course in Physical Geography was also given by Dr. P. S. Smith. A half-course of advanced field work in geology was conducted by Professor J. B. Woodworth during July and a part of August in the Rocky Mountains of Montana, the expense being met in part by the funds of the Department, in part by fees from students, and also by a grant from the Corporation. This course was included in the "Joint Announcement," the plan of which was explained in the report of Professor Ward upon the Department for 1903–04. Two scholarships of \$100 each were available for persons of suitable preparation who by joining this course became members of the University. Four students from Harvard University attended the course.

The Department gratefully acknowledges the gift of \$100 from Sir John Murray for a collection of deep-sea deposits. In the Report of the Sub-Committee of the Department upon the Geological Museum acknowledgment is made of the use of the balance of the construction fund for cases in the large exhibition room. Dr. G. J.

Pfeiffer has deposited in the Geological Lecture Room, subject to recall at his pleasure, a large globe which has proved a useful addition to the teaching equipment.

During the winter Sir John Murray addressed the Geological Conference upon the subject of the "Deep Sea and its Deposits." Professor Albrecht Penck, of Vienna, spoke on "Climatic Variations of the Ice Age," "Glacial Sculpture of the Alps," and "Man and the Ice Age." Mr. W. D. Johnson, of the U. S. Geological Survey, also presented a paper on "The Erosion of Cirques by Glaciers."

Professor Shaler continued his lectures on General Geology in Course 4, which by reason of its restriction to students in the Lawrence Scientific School was reduced in numbers and was held for the first time in the Geological Lecture Room. He also lectured on Palaeontology in Courses 14 and 15, being assisted by Mr. Starratt in laboratory work. Professor Shaler was engaged during the year in a study of the distribution of volcanic ash deposits in the northern part of the Rocky Mountains, mainly in Montana.

Professor Davis reports that he gave his usual courses of instruction during the past year. That on the Physiography of the United States, open to graduates and under-graduates, in the second half of the year, was greatly improved with the aid of Mr. Isaiah Bowman, assistant, by the development of a systematic series of laboratory exercises, based chiefly on the topographical maps of the United States Geological Survey. The advanced course, primarily for graduates, and extending through the year, has been conducted as heretofore, each student selecting a special problem and reporting upon his work at regular meetings of the class.

During the autumn a share of Professor Davis's time was given to the publication of a report on the journey to Turkestan that was undertaken two years ago under the direction of Mr. Raphael Pumpelly as leader of a Carnegie Institution Expedition.

A meeting for the purpose of organizing the Association of American Geographers, in preparation for which there was much correspondence, was attended by Professor Davis in Philadelphia during Christmas week. This association appears to be the only geographical society in the world in which membership is limited to persons of some degree of expert knowledge and performance. During the period of the mid-year examinations a short course of lectures on physiography was given by Professor Davis at the Johns Hopkins University in Baltimore. An intercollegiate excursion was also organized by him for the purpose of visiting the glacio-marginal channels in the uplands near Syracuse, N. Y., during the April recess.

Professor Davis gave special attention during the year to three problems concerning which essays have been or will soon be published: the bearing of physiography on Suess's theories, in which certain observations made in the Tian Shan Mountains in 1903 were discussed; the problem of fault-block mountains, based on a continuation of the work of earlier years and referring particularly to the results of an excursion to certain ranges in the deserts of Utah in 1904; and the peculiar features of the geographical cycle in an arid climate, with special regard to the work of Passarge on the Kalahari Desert.

A week was given in July to the guidance of a party of students forming an intercollegiate summer geological course through the valleys of the Susquehanna and the Juniata in central Pennsylvania. On July 15th, Professor Davis sailed from New York to join the official party of the British Association on its excursion to South Africa, as a result of which his return to Cambridge was delayed somewhat beyond the beginning of the current academic year.

Professor H. L. Smyth gave the usual courses in economic geology under the auspices of this Department. The work of these courses is conducted in the Mining Building. In Course 10, the class was required to spend the major part of the April recess in field work, under the guidance of advanced students, at Pondville, Mass.

Professor R. T. Jackson reports that instruction was given as usual in Courses 11 and 15. Course 20*d* was also given by him. Mr. Starratt assisted in Course 11. The teaching collections in Palaeontology are in good condition. They have been used to some extent by students in Course 14. Some material has been purchased from Ward's Natural Science Establishment, and a considerable number of photographic diagrams have been added. These diagrams afford faithful reproductions of original published figures at a very small cost.

Professor Ward reports that, in accordance with a recommendation of the Committee on Improving Methods of Instruction, the hour of the Course in Meteorology (Geology *B*) was changed from 11 A.M. to 3.30 P.M., the result being a reduction of more than one-half in the number of students. The advantages of the afternoon hour are so great, however, that the lectures are given at the same time during the year 1905-06. In Geology 2 (Climatology of the United States), many new laboratory exercises were given, in order that the time spent by the students might be more nearly that which the Committee on Instruction desires to have required in all courses. The result of these changes was a distinct gain in the understanding



of the subject-matter of the course. Two theses in Geology 19 (General Climatology) have been accepted for publication.

A most important step toward the improvement of the instruction in Meteorology and Climatology has been taken in providing a proper place for a meteorological observatory. The anonymous gift of \$200, acknowledged last year, has made it possible to erect on the roof of the Geological Section of the University Museum a substantial platform, where all needed instruments may be set up, and instruction in practical instrumental work given. This platform was built in June, 1905, with the approval of the Director of the University Museum. Some changes have been made in the stairway and in the door leading to the roof, in order that access may be safe and easy. A portion of the attic directly beneath the platform will later be adapted as an instrumental work room. Several instruments will be in working order in January, 1906. As opportunity offers, additional instruments will be purchased. The advantages of having this small working meteorological observatory for the use of students in Meteorology and Climatology will be very great, and the instruction in these subjects will be materially strengthened.

On May 20, 1905, the Eastern Association of Physics Teachers held a meeting in the Geographical Laboratory. Professors Davis and Ward gave addresses, and a number of lantern slides and laboratory and lecture materials used in the courses in Meteorology were exhibited.

Professor J. B. Woodworth gave, as in former years, the Courses 5 and 8 in dynamical and structural geology, and also a new half-course in the physical geology of the Carboniferous period, instead of the customary course in glacial geology. For a number of reasons it seemed desirable to rearrange the first and second years' work in general geology, and to make the fullest use of the large laboratory devoted to geology on the second floor of the Museum. For a great many years large numbers of students who do not take the upper courses dealing with historical palaeontology have taken Courses 4, 5, and 8, the subject-matter of which is mainly dynamic geology, though in the latter course about one-half the lectures have in recent years been devoted to the physical features of the great geological systems, and laboratory work has been introduced to supplement the lectures and field work. It has therefore been arranged for the year 1905-06 to combine the laboratory and field work of the course known as Geology 5 with Professor Shaler's lectures in Geology 4, to be offered as a half-course in the first half-year, and to offer the part of Geology 8 dealing with historical geology as a half-course in



the second half-year, thus enabling a student to obtain in his first year a general outline, with suitable laboratory and field experience, of the whole field of geology. Considerable time has been devoted in gathering the materials for this half-course in historical geology. A large number of specimens have been added, through the kindness of Professor Wolff, from the Fraser Collection, and through the transfer of fossils from the palaeontological laboratory by Professor R. T. Jackson.

In connection with the field work of his courses Professor Woodworth obtained additional examples of the carboniferous amphibian foot-prints at Plainville, Mass., and with Dr. Smith and Mr. Starratt made a collection of rocks and fossils from Martha's Vineyard for the Museum in the April recess.

Professor Woodworth devoted his available time for research, particularly during the summer, to the New York geological survey. Instruction was given to Radcliffe students in two half-courses and one full course, in which he was assisted by Dr. Smith in the field.

The geological laboratory received from Mr. Philip T. Coolidge, of Watertown, Mass., the valuable gift of a series of rocks and fossils collected by him in eastern New York in 1903. The following gifts are also gratefully acknowledged: from Dr. James M. Bell, specimens of the glacial clays and interglacial lignites of northern and northwestern Ontario; from Professor Penck, sand-blasted fragments of limestone from the mouth of the Virgen river, Arizona; from Mr. W. F. Harrison, fragments of fossils from the Middle Cambrian beds of Braintree, Mass.; from Mr. Albert P. Morse, a collection of sand-blasted wood from the dunes of Ipswich, Mass. This last collection has been reserved for the Geological Museum. Professor Woodworth was also enabled to add a collection of rocks and fossils, made in the work of the summer school conducted in the summer of 1905, including representatives from the Crazy Mts., the Gallatin and Madison Valleys, and the region of Old Baldy Mt., in Montana.

At the close of the summer school Professor Woodworth extended his journey to the Pacific coast, returning by way of Nevada and Wyoming for the purpose of inspecting certain areas not previously visited.

Professor Jaggar was granted leave of absence from September 1, 1904, for a part of his time, to give instruction in the Massachusetts Institute of Technology, and take charge of the Department of Geology of that Institution. He continued to teach two advanced courses in field geology in Harvard University, Courses 22 in this

Department and 28 in the Mining Department, both of which make use of the advanced laboratory in the geological section of the Museum. Certain members of the class in Course 22 made discoveries which will lead to publication. Mr. G. R. Mansfield was associated with Professor Jaggar in conducting the work, and prepared a paper on the "Quaternary Gravels of the Northern Black Hills." Mr. F. E. Matthes made an extended study of the structure and distribution of eskers south of Weymouth. Mr. I. Bowman coöperated in this work, and also found glauconitic clays and more of the lignite first reported by Upham in the cliffs of Scituate, Mass., which may prove to be of pre-Pleistocene origin. Mr. H. E. Simpson, in collaboration with Mr. G. F. Low, finished a topographic model of Crook Mountain, a laccolithic dome in the Black Hills.

Professor Jaggar continued his experimental studies of erosion, for which purpose a pneumatic spraying apparatus was installed in the basement of the Museum. He made a new model of the sclerometer, an instrument for testing the hardness of minerals, and also constructed a telemeter-alidade for reconnaissance mapping. Experiments with these instruments are in progress.

Mr. François E. Matthes, of the U. S. Geological Survey, gave a course (Geology 13) in topographic work for the instruction of students in geological surveying.

The sub-committees of the Department present the accompanying brief reports.

The committee on the Gardner Collection of Photographs (Professors Ward and Woodworth, and Dr. P. S. Smith) reports as follows : —

STATE OF THE GARDNER COLLECTION, JUNE 27, 1905.

Items.	Photographs.	Slides.	Negatives.
Accessions since last report . . . . .	87	103	127
Unidentified views . . . . .	253	30	..
Duplicates . . . . .	144	51	..
Broken . . . . .	..	1	..
Last accession No., June 14th . . . . .	5654	4308	..
Number now in Collection . . . . .	5582	4623	1236

The accessions for the year include slides and photographs from the British Association for the Advancement of Science; gifts to the University from Messrs. Du Bois, F. E. Matthes, Robert W. Sayles, W. M. Davis, and J. B. Woodworth; also twenty-six views from Professor Shaler which have not yet been placed in the Gardner collection. During the year Mr. Turpin of Boston spent consider-

able time in repairing and rebuilding the slides. He was also employed in making a number of negatives from original materials.

The sub-committee on the Geological Museum (Professors R. T. Jackson, Jaggar, Wolff, and Woodworth) report that in November, 1904, the Corporation granted to the Geological Department \$1160.12, the balance of the building fund of the Geological Museum, to be expended for cases in the exhibition rooms. With this money and by making use in part of old cases given last year by the Museum of Comparative Zoölogy, six cases have now been built in the southwest exhibition room. They are, namely, one long wall case on the east wall; three cases between windows on the west wall, and two large centre cases with table and upright central portion and space beneath for storage in trays. These cases when filled with exhibition material will make an excellent nucleus for the Geological Museum.

A sub-committee appointed to make nominations for the Josiah Dwight Whitney Scholarship (Professors Davis, Jaggar, and Woodworth) recommended that two scholarships of \$100 each be awarded by the Corporation to Messrs. S. A. Starratt and W. F. Low, students in the course given in the Rocky Mountains of Montana in the summer of 1905 by Professor Woodworth, and the Corporation made this award.

The following is a list of publications which have appeared since the last report: —

1. A comparison of the Features of the Earth and Moon. By N. S. SHALER. *Smithsonian Contributions to Knowledge*, XXXIV, No. 1438, 1903, pp. 1-130, pls. 1-35.

2. The Relations of the Earth Sciences in view of their progress in the Nineteenth Century. By W. M. DAVIS. *Journ. Geol.*, XII, 1904, pp. 669-687.

3. Glacial Erosion in the Sawatch Range, Colorado. By W. M. DAVIS. *Appalachia*, X, 1904, pp. 392-404.

4. A Journey across Turkestan. By W. M. DAVIS. Carnegie Institution, Washington, D.C. *Publication No. 26*, 1905, pp. 21-119.

5. The Opportunity for the Association of American Geographers. By W. M. DAVIS. *Bull. Amer. Geog. Soc.*, 1905, pp. 84-86.

6. The Bearing of Physiography on Suess's Theories. By W. M. DAVIS. *Amer. Journ. Sci.*, XIX, 1905, pp. 265-273.

7. Tides in the Bay of Fundy. By W. M. DAVIS. *Nat. Geog. Mag.*, XVI, 1905, pp. 71-76.

8. Leveling without Baseleveling. By W. M. DAVIS. *Science*, XXI, pp. 825-828.

9. Charles Emerson Beecher. By R. T. JACKSON. *Amer. Nat.*, XXXVIII, No. 450, 1904, pp. 407-426.

10. The Protection of Native Plants. By R. T. JACKSON. *Trans. Mass. Hort. Soc. for the year 1904*, Part I, 1904, pp. 111-119.
11. Notes on the Cultivation of Peonies. By R. T. JACKSON. *Ibid.*, pp. 141-157, figs. 1-4.
12. John Richardson: his House and Garden. By R. T. JACKSON. *Ibid.*, pp. 159-202, pls. 1-14, figs. 5-10.
13. Professor Packard's "Lamarck: his Life and Work." By R. T. JACKSON. *Psyche*, XII, 1905, pp. 36-38.
14. Notes and Reviews. By R. DEC. WARD, in *Science*, *Bulletin of the American Geographical Society*, and the *Journal of Geography*.
15. Administrative Report of Work done in New York. By J. B. WOODWORTH. Embodied in the 22d Annual Report of the State Geologist, Dr. F. J. H. Merrill, for 1902. *56th Annual Report of the N.Y. State Museum, Albany, N.Y.*, 1904, pp. r8-r10.
16. Pleistocene Geology of Mooers Quadrangle, being a portion of Clinton County, N.Y. By J. B. WOODWORTH. *Bull. 83 (Geology 7), N.Y. State Museum*, 1905, pp. 1-62, with colored geographical map and pls. 1-25.
17. Ancient Water-levels of the Champlain and Hudson Valleys. By J. B. WOODWORTH. *Bull. 84 (Geology 8), N.Y. State Museum*, 1905, pp. 63-268, pls. 1-29, 24 figs. in text.
18. The Brandon Clays. By J. B. WOODWORTH. *Report of the Vermont State Geologist, 1903-04*, pp. 166-168.
19. Reviews of Geological Books. By J. B. WOODWORTH, in the *Nation*, *Amer. Journ. Sci.*, and *Amer. Nat.*
20. A Reprint of Penning's Dip, Depth, and Thickness Table. Edited by J. B. W. Published by the University, 1904. 1 p.
21. Economic Resources of the Northern Black Hills. By T. A. JAGGAR, Jr. Part I, General Geology (and geological maps). *Professional Paper, No. 26*, U. S. Geological Survey, Washington, D.C., 1904, pp. 1-41.
22. The Tertiary History of the Tennessee River. By D. W. JOHNSON (under direction of Professor DAVIS). *Journ. Geol.*, XIII, 1905, pp. 194-231.
23. The Development of Cut-off Meanders. By W. S. TOWER (under direction of Professor DAVIS). *Bull. Amer. Geog. Soc.*, 1904, XXXVI, pp. 589-599.

J. B. WOODWORTH, *Chairman.*

## THE DEPARTMENT OF MINING AND METALLURGY.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — The number of students in Mining and Metallurgy at the beginning of the year 1904–05 was 67, or 12.6 per cent. of the total enrolment in the Lawrence Scientific School. For comparison the corresponding numbers in previous years are given in the table below.

	'95-96	'96-97	'97-98	'98-99	'99-00	'00-01	'01-02	'02-03	'03-04	'04-05
Students in Mining and Metallurgy .	7	13	17	19	30	42	67	75	68	67
Students in the L. S. S. . . . .	840	868	410	415	495	507	549	584	548	530
Per cent. . . . .	2.1	3.5	4.1	4.6	6.1	8.3	12.2	12.8	12.6	12.6

The course has been established for eleven years. Not including undergraduates now in the School, 178 students in all have been enrolled in it. One hundred and thirty-nine of these have been regular students, while thirty-nine have been specials. Including the year 1904, the degree of S.B. in Mining and Metallurgy has been given to 39 persons, or 22.2 per cent. of the names enrolled. Twenty-five of these degrees, or practically two-thirds, have carried some grade of distinction, a fact which, as I pointed out in my report last year, is explained by the elimination of incapable and lazy students through the stringency of our requirements.

Of the 39 special students whose names have been borne on our lists, a very small number, certainly not more than three or four, have entered in order to pursue special work without any intention of becoming candidates for the degree. The rest have been admitted as special students because they could not pass the number of points required for admission to regular standing, but with the expectation that they would be able in time to attain regular standing and finally graduate. If the success of this method of admission is to be measured by the extent to which this expectation has been realized, as far as this Department is concerned it would seem to be a failure, for as yet only two students admitted on this footing have attained

the degree. It is fair to state, however, that students of this class have caused this Department little embarrassment, for very few of them have come under its instruction. For the most part they have been separated from the School or have changed into other programmes in the first year or two of residence.

The operations of Mining and Metallurgy fundamentally consist in the application of many sciences to these useful arts; and therefore the technical studies in these subjects require a good preliminary grounding in mathematics, physics, chemistry, mineralogy, and geology. For this reason this Department offers no really elementary course. With the exception of two half-courses, none of its work may be taken except after previous study for at least two years in specified subjects. It would therefore be an easy matter to reorganize its instruction in such a way that most of it might be incorporated in a graduate school of technical science.

The appointment of Dr. Peters to a full professorship of Metallurgy has enabled our work in this direction to be expanded as well as improved. We look forward, moreover, to still further growth in several other directions. Owing to our geographical position, the members of the Department have felt that we ought as soon as possible to give particular attention to the mining of coal, with its special engineering problems, and to the economical utilization of fuel and its products. Also electro-metallurgy and the metallurgy of the less common elements are subjects of growing importance to which we ought to give more attention. We hope, too, very soon to be able to expand the summer work by offering a three weeks' course in Mine Surveying and a course in Metallurgy similar to Mining 12.

The Crocker School of Practical Mining, which was so successful in the summer of 1904, had to be given up because the money could not be raised to continue it. Therefore it was necessary last year to provide independently for our own summer work in Mining 12. It was decided to give this course in three parts, consisting of required underground surveying, a voluntary excursion, and required practical work in the mines.

The underground surveying was in charge of Dr. Boynton. The class of ten students spent ten days in making and platting a closed survey at a copper mine in Vermont. The work began on June 16th and was completed on June 26th.

The voluntary excursion was in charge of Professor C. H. White. The party of ten assembled in Baltimore on June 30th, and after visiting the plant of the Maryland Steel Company and other industrial establishments in that city, proceeded directly to Dahlonega,

Georgia, where gold mines, mills, and dredging operations were studied. Birmingham was the next important stop, and there and in the surrounding district, coal and iron mines, blast furnaces, steel mills, etc., were visited. Next copper-mining and smelting were studied at Ducktown, Tennessee; iron-mining and magnetic concentration at Cranberry, North Carolina; and blast furnace practice at Embreeville and Johnson City, Tennessee, and Bristol, Virginia. The excursion ended July 21st with visits to coal mines in the Big Stone Gap district, Virginia.

From the technical standpoint the chief value of this excursion consisted in the great variety of objects, processes, and methods with which the student was brought in contact. But apart from this, so broad a view of the important mining and metallurgical industries and peculiar labor problems of a region to which our students do not often go could not fail to have an enlarging influence on them.

Everywhere the party was received with the utmost courtesy and hospitality. Free transportation south of Washington was furnished by the Southern Railway. The Louisville and Nashville, the Eastern Tennessee and Western North Carolina, and the Virginia and Southwestern lines also carried the party free of charge for shorter distances.

The third part of the course consisted of practical work underground. The student was allowed to select his own district and work there without supervision. He was furnished, however, with a syllabus to guide his observation and study. On this part of the course he is to make a written report, accompanied by his note-book and sketches.

This plan has given less satisfactory results than were attained in the Crocker School, although it has been a great improvement over the way in which Mining 12 was formerly conducted, that is to say, as a tour of observation only. Accordingly it is to be desired that the Crocker School or one organized on the same general plan should be made permanent. This would require an endowment of \$300,000 if the four institutions which coöperated in 1904, namely, Harvard, Yale, Columbia, and the Massachusetts Institute of Technology, were all to continue to take part in it.

It might be thought that the discouraging effect of the higher laboratory fees was the explanation of the fact that so few of our students choose the Metallurgical option, if the other American schools did not show a similar disparity in numbers between those fitting themselves for careers in Mining and in Metallurgy. Indeed most of the European schools have had the same experience.



The greater attraction of Mining for young men is hard to understand in face of the unquestionable facts that Metallurgy is easier to get a start in, that it offers greater rewards to first-class men, and that it affords pleasanter conditions of living than usually fall to the lot of the mining engineer.

Places were found for all our graduates of last June who wanted them, and the scheme of coöperation to this end between old Harvard men and the Department, mentioned in my report of last year, is fairly under way. Several gentlemen have interested themselves very actively in this matter, so that it would have been possible to provide for more than twice as many men as were available. Also through the efforts of the Department some graduates of experience secured positions of responsibility. It is pleasant to note the existence of a strong *esprit de corps*, not only among the undergraduates but among the graduates as well, who show it by a general desire to help in finding places for the younger men.

Last year Dr. H. C. Boynton, Instructor in Metallurgy and Metallography in this Department, was awarded an Andrew Carnegie Research Scholarship by the Council of the Iron and Steel Institute of Great Britain. The object of these scholarships is to enable students who have passed through college or who have been trained in industrial establishments to conduct researches in the metallurgy of iron and steel and allied subjects with the view of aiding its advance or its application to industry. The appointment is for one year, but the Council at their discretion may renew the Scholarship for a further period. This distinguished honor, which Dr. Boynton is the third American to win, was secured by the publication of his important researches carried out in the Simpkins Laboratory under Professor Sauveur and presented in 1904 as a thesis for the degree of S.D.

Dr. Boynton has now undertaken the investigation of the relative hardness of the micro-constituents of iron and steel. Considerable uncertainty and difference of opinion still exist concerning the exact nature of some of these constituents, and it is believed that accurate data concerning their hardness will be of very great value in establishing their true character. Such information would in many other ways contribute to the advancement of Metallography besides being susceptible of practical application.

The Department has been awarded a gold medal for its exhibit at the World's Fair at St. Louis. Professors Raymer, Sauveur, and White, the Committee in charge, deserve great credit for getting together so interesting an exhibit at so small a cost.



The following publications by members of the Department have appeared during the last academic year:—

Flammofenpraxis im Amerikanischen Kupfer-Huettenbetrieb. E. D. PETERS. In *Metallurgie*, January 8 to February 8, 1905, inclusive.

Pyrite Smelting. E. D. PETERS. *Pyrite Smelting*, pp. 132–192. New York, 1905.

The Simpkins Laboratory at Harvard. G. S. RAYMER. *Engineering and Mining Journal*, February 16, 1905.

*The Iron and Steel Magazine*, Vols. IX and X. A. SAUVEUR, *Editor*.

Metallography applied to Foundry Practice. A. SAUVEUR. *Foundry*, May and June, 1905.

The Micro-Structure of Cast Iron. A. SAUVEUR with W. J. KEEP. A report of work done in the Metallographical Laboratory of Harvard University. *American Society of Mechanical Engineers*, June, 1905.

The Origin and Classification of Placers. H. L. SMYTH. Three papers. *Engineering and Mining Journal*, May and June, 1905.

Autophytography; a process of plant fossilization. C. H. WHITE. *American Journal of Science*, March, 1905.

H. L. SMYTH, *Chairman*.

## MINERALOGICAL MUSEUM AND LABORATORIES OF MINERALOGY AND PETROGRAPHY.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — The lighting of the mineralogical exhibition rooms by means of Nernst electric lamps of various powers (described in detail in my last report) has been in successful operation for nearly a year, and accomplishes the purpose for which the system was installed. The cost of current for the first year will be about \$250, but it is probable that in succeeding years this cost will be reduced owing to the present lower price of current and to greater economy in the use of the lights. The cost of this experiment for a term of years is borne by a friend of the Museum.

An offer was received last fall from the Himalaya Mining Company, operating tourmaline mines in San Diego County, California, to loan for exhibition a large and valuable collection of these American tourmalines. While our Museum has rarely accepted exhibits on loan, the extraordinary beauty and size of this collection made it almost a duty to accept the offer for the sake of the public. Accordingly one of the two gem cases in the gallery has been filled with a collection of natural crystals and cut stones of various sizes and shapes, including also some California chrysoprase and turquoise; and, in a new case built facing one of the windows, a number of the finer crystals have been placed on thin plate glass supported above white velvet so as to bring out the colors by strong transmitted light. The crystals are either a deep transparent pink, or various shades of green, or combinations of these colors; they are in most cases doubly terminated with brilliant planes and so are practically perfect; there are in all nearly 300 of the crystals, large and small, 250 stones cut in various forms, such as brilliants, pendants, heart-shaped, en cabuchon and intaglios, and 200 polished sections of whole crystals; also 70 cut stones of chrysoprase and turquoise — in all over 800 pieces. Taken together with the Hamlin collection of tourmalines in the adjacent case, this is probably the largest and most valuable collection of tourmalines ever brought together for exhibition.

Assistant Professor Palache has continued the gradual collection of material for an exhibit of the minerals of economic importance

and their products ; and the Museum has received from a number of firms and individuals generous gifts of material for this purpose, a partial enumeration of which follows : —

Monazite and its products, from the Welsbach Light Co.

Asbestos and its products, from the Johns Mansville Co.

Carborundum, from the Carborundum Co.

Graphite and products, from the Joseph Dixon Graphite Co.

Gypsum and its products, from the U. S. Gypsum Co.

Stassfurt salts, from the German Kali Co.

Talc and its products, from the N. C. Talc and Mining Co.

A large piece of nickel ore, from the International Nickel Co.

Graphite and metallic silicon, from the Acheson Graphite Co.

An interesting and unique gift came from Mr. E. R. Emerson in the shape of the whole of a small iron meteorite which was found in 1898 by a prospector on the northeast slope of Mt. Ouray, Colorado, at an altitude of 10,500 feet, and given by him on the same day to Mr. Emerson.

The usual number of accessions have been received by gift or purchase.

JOHN E. WOLFF, *Curator.*

## THE PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — The researches in Central America, which have been carried on each year since 1891, were continued during the past year under the direction of Mr. E. H. Thompson in Yucatan, and by Mr. Teobert Maler in Guatemala.

During the winter months Dr. A. M. Tozzer was again in Yucatan continuing his studies, ethnological and linguistic, among the Mayas and Lacandones, as fourth-year American Fellow of the Archaeological Institute of America. On his return in the spring of 1905 he was appointed Instructor in Central American Archaeology for the year 1905-06.

During the summer of 1905 archaeological explorations were carried on in three different places in the United States, and three Harvard men were afforded an opportunity for gaining practical experience in archaeological field work. One of these expeditions was under the direction of Mr. M. Raymond Harrington, assisted by Mr. Irwin Hayden (B.A.S. Harvard 1905), Winthrop Scholar in Anthropology for 1905-06. This was in continuation of the exploration of certain old Indian sites in New York State which had been carried on by Mr. Harrington for the Museum during the summers of 1903 and 1904. Another exploration was of an old Mandan site in North Dakota, by Mr. G. F. Will (Harvard 1907) and H. J. Spinden (Harvard 1906). Dr. R. B. Dixon superintended the beginning of the work at this site. The third exploration was conducted by Mr. Ernest Volk, who for many years carried on researches for the Museum in the Delaware Valley and made discoveries there showing that man was living on the Atlantic Coast during the glacial period. Mr. Volk spent the summer in Ohio exploring several places, within the enclosure about the Turner Group of Mounds, which were not included in the long-continued exploration of that interesting group, by the Curator and Dr. Metz, over a decade ago. We have thus secured additional facts relating to this important group of Ohio mounds and to the archaeology of the immediate vicinity. Dr. Metz rendered assistance to Mr. Volk in many ways during this exploration.

These several explorations were made possible by using the income of the Henry C. Warren Fund and the recent gift of Mr. Clarence B. Moore of the Visiting Committee.

Dr. W. C. Farabee, Instructor in the Division, took a party of Harvard students to Iceland during the summer. The party travelled about nine hundred miles in visiting the chief points of interest on the island. Side trips were made by members of the party. One of the objects of the excursion was to secure such knowledge as could be obtained by scientific research in relation to the earliest inhabitants of the island. Mr. V. Stefánsson, Hemenway Fellow in Anthropology, and Mr. J. W. Hastings (Harvard 1905) explored old Icelandic burial-places and made a valuable collection of skeletons of the earliest people of the island. Mr. Hastings also made anthropometric measurements of many of the Icelanders. The caves of Iceland are of post-glacial volcanic origin and show no indication of having been occupied by man. No stone implements have ever been found on the island. These investigations led to the conclusion that the island was probably not inhabited prior to its settlement by the Norwegians in A.D. 872. Researches and collections were made by members of the party in geology and ornithology. After the disbanding of this expedition, Dr. Farabee spent the remainder of the summer in visiting the European museums and archaeological sites, and especially in studying the evidences of early man in the Old World.

Mr. D. I. Bushnell, Jr., Assistant in Archaeology, has spent the year in Italy, where he has been well received by Italian archaeologists. He is engaged in making a study of the museums and archaeological sites in Italy. With a small appropriation from the Huntington-Frothingham-Wolcott Fund he secured for the Museum the contents of an Etruscan tomb. In the *American Anthropologist* for April-June, 1905, he has described and figured two ancient Mexican atlats which are in the museum at Florence.

The income of the Huntington-Frothingham-Wolcott Fund has been used in the purchase of various objects and small collections, principally of North American and Polynesian ethnology, which were important in filling gaps in our series.

The income of the Susan D. Warren Fund has again been applied to the cost of the cases in the Indian Gallery, in accordance with the vote of the Museum Faculty.

Two new appointments have been made in the Division for the year 1905-06, namely, Dr. A. M. Tozzer, Instructor in Central American Archaeology, and Mr. V. Stefánsson, Assistant in Anthro-

pology. In addition to the new half-course on Central American Archaeology and Ethnology, a new research course in General Ethnology is to be offered by Dr. Dixon.

The Museum has issued during the past year the following publications : —

A Penitential Rite of the Ancient Mexicans. By ZELIA NUTTALL. *Peabody Museum Papers*, Vol. I, No. 7, 1904.

Index to *Papers*, Vol. I. Prepared by Miss MEAD, 1904.

Representation of Deities of the Maya Manuscripts. By Dr. PAUL SCHELLHAS. (A translation from the German.) *Papers*, Vol. IV, No. 1, 1904.

Inheritance of Digital Malformation in Man. By Dr. WILLIAM C. FARABEE. *Papers*, Vol. III, No. 3, 1905.

Index to Vol. IV of the Museum Reports. Prepared by Miss MEAD, 1905.

Since the last report 159 volumes and 30 pamphlets have been added to the Museum Library, which now contains 3,297 volumes and 2,938 pamphlets.

As in several former years, the collections representing the life and customs of the North American Indians have been greatly enriched in scientific value and in popular interest by the generous gifts of Mr. Lewis H. Farlow. Since the last report we have received from him the following specimens: Harpoon line carrier, ice scoop, spears, walking stick and clothing of the Eskimo of Alaska; ceremonial mask of copper, copper bracelets, engraved ceremonial head ornaments, fishing implements and basketry of the Haida and Tlingit Indians; ceremonial bark neck rings, basketry and domestic utensils of the Salishan and Wakashan tribes of British Columbia, Washington and Oregon; rare baskets, games and other objects of the Pomo, Hupa, Maidu and Mission Indians of California; a very rare and complete feather dance costume of the Mutsun Indians; buckskin leggings and other clothing of the Apache and Shoshonean tribes; three very rare old medicine shields, and two rare types of war bonnets of the Crow Indians; a war bonnet, buckskin bags, breastplate, leggings and beaded cradle of the Dakota Indians; also several valuable specimens from the tribes of the Pacific Islands, Africa, and the Philippine Islands.

From the Belgian government, through the Musée Royal d'Histoire Naturelle, M. Ed. Dupont, Director, we have received the collection exhibited at the St. Louis Exposition to illustrate the different periods of prehistoric time in Belgium according to the classification of M. A. Rutot, curator.

From Dr. Alexander Agassiz we have received models of three types of canoes from Paumotu group; two paddles, three copper fishhooks and stone implements from Gambier Islands; two staffs of office, dance paddles, carved wooden image, stone head, various stone implements, including celts, knives and hafted spears, two large stones with characteristic carving, two seines, tapa cloth and two skulls from Easter Island; also twelve copper and bronze objects from Tiahuanaco, Peru.

From Mr. Charles P. Bowditch we have received matting from Attu Island, Alaska; basket from Point Barrow; two Pomo baskets and a collection of basket material of the Tlingit Indians; twenty-seven views of monuments and ruins, taken by Mr. Teobert Maler in Southern Mexico and Guatemala; and several hundred small stone beads from an ancient pueblo ruin in New Mexico.

From Dr. L. C. Jones of Malden we have received two feather head dresses and a necklace of the Indians of Minnesota; Ojibwa bark box with quill work; fragment of Indian pipe made into a whistle, Sandwich, Mass.; pipe from grave in Plymouth County, Mass.; Sioux tobacco bag; photographs of Melanesian canoe; and a Solomon Island bow with five arrows.

By gift of Miss Mary L. Ware of Boston the Museum has secured an interesting old Quiché manuscript containing from eighty to one hundred thousand words in the Quiché language. Mr. Robert Burkitt from whom the manuscript was secured refers to it as comprising religious and grammatical instruction, sermons for various occasions, and prayers, composed by missionaries about two hundred years ago.

From other individuals interested in the Museum we have received the following:—Dr. W. C. Farabee, twenty-seven photographs of Pueblo, Navajo and Blackfoot Indians taken during trip of 1904, stone axe from Damariscotta, Me., pestle from British Columbia, and specimen of haircloth from Cañon de Chelley; Mr. F. H. Kennard, Brookline, Mass., thirty-nine photographs of American Indians; Miss Lottie Nichols, Sandwich, Mass., club, ceremonial paddle, spear, and bow and arrows from Solomon Islands, collected by the late Capt. Nichols and presented through Dr. L. C. Jones; Miss Alice E. Putnam, two blow guns with arrows from Java; Rev. S. P. Verner, bow and six poisoned arrows, one iron-pointed arrow and firestick of the Batwa Pigmies from the upper Congo; Mr. Everell F. Sweet, Malden, Mass., mask from New Zealand, two obsidian pointed spears from Admiralty Island, four spears from New Hanover, one spear (unidentified) obtained by Capt. Brown

of Barque Alice at Marshall Island, presented through Dr. L. C. Jones; Mr. C. B. Moore, Philadelphia, shell "clubheads," celts, pendants, etc., and pendants of coral rock from Key Marco, Florida; Mrs. S. J. Mixter, Boston, eighty-five specimens of chipped jasper implements and flakes found in a cache, and a pestle-like implement, from Twin Sisters Island, Me.; Mr. Langdon Warner, Cambridge, bow for shooting stones and a slug from Turkestan; Miss Grace Nicholson, Pasadena, Cal., Eskimo carving representing interior of hut and native dance, and eight carved figures; Professor M. H. Morgan, buckskin coat and pipe of Seminole Indians, Florida (collected by Professor Morgan's grandfather's brother, who was killed by the Seminole Indians in 1839); Mr. H. R. Gardner, Cambridge, model of "Bandaga" or native boat and wooden overshoes, Brazil, a pottery vase, and a fine old Micmac Indian birch bark box ornamented with porcupine quillwork; Mrs. J. H. Lewis, Minot, No. Dak., stone maul from near Minot; Professor F. W. Putnam, shell beads, shell and stone pendants, perforated Olivella shells and three armlets of Petunculas shell from ruin on mesa at Chaco Cañon; Miss Adela C. Breton, Bath, England, stone paint metate; Mr. William K. Porter, Jr., Boston, embossed leather Mexican saddle; Mr. John L. Saltonstall, Boston, seventeen pieces of prehistoric Costa Rica pottery; Dr. Townsend W. Thorndike, Boston, bag of moose skin from Pegansikum band of Saulteaux tribe; Professor J. B. Woodworth, six glyptoliths or sand-blasted pebbles, Martha's Vineyard; Mr. Clemente Viranco, Tenosique, Mexico, fragment of Maya inscription, effigy of human head in stone and portion of human figure in terra cotta; Mrs. W. M. James, Merida, Yucatan, bark cloth poncho of the Lacandone Indians; Mr. Owen Bryant, seventeen quartz arrowheads from Manassas, Va.; Dr. Clarence J. Blake, Boston, woman's buckskin dress and twenty-six photographs of American Indians, also four views of ruins of Mitla and twenty views of modern Mexico; Miss N. M. Betteley, Cambridge, terra cotta doll of the Mohave Indians; Mrs. Crosby Brown, New York, sixteen photographs of Mexican musical instruments, and one photograph and five plates showing old musical instruments of various times and places.

The numerous accessions to the Museum have been prepared for study, exhibition, or storage by Mr. Willoughby. In the arrangement of the cases, Mr. Willoughby has added materially to the interest and importance of the various rooms by the addition of photographs, plans, and maps, as well as by his artistic arrangement of the specimens.



During the past year my connection with the University of California was so modified that I remained in Cambridge during the whole of the College term, 1904-05, and was in California during the months of July, August, and September.

F. W. PUTNAM,

*Peabody Professor and Curator of the Museum.*

## THE SEMITIC MUSEUM.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — Since my last annual report the Museum has acquired by gift a small collection of Greek papyri from the Egypt Exploration Fund ; a number of Oriental coins, collected by the late Professor J. Henry Thayer ; a copy of the colored relief map of Palestine, “ constructed from the surveys of the Palestine Exploration Fund by G. Armstrong, acting secretary of the Fund,” presented by Mrs. Richard Rogers Bowker ; and a copy of *L'Ornement Hébraïque*, the reproduction in color of illustrations in Hebrew manuscripts, largely of the tenth and eleventh centuries, edited by D. Gunzburg and V. Stassoff, presented by Mr. Jacob H. Schiff.

By purchase there has been acquired a small collection of antiques, chiefly Palestinian ; a few of the Palestinian objects exhibited by the Palestine Exploration Fund at the Louisiana Purchase Exposition in St. Louis in 1904 ; eighty coins from Palestine and Phoenicia ; and a valuable collection of Syriac manuscripts.

These manuscripts are from the library of Professor James Rendel Harris of England, a specialist in Syriac study, and were collected by him during a period of many years. They number one hundred and twenty-five, and are in an excellent state of preservation. They are mainly Biblical and theological in character. Some are modern copies of important works and others are several centuries old. In size they vary from 18 × 14 inches to the page down to 2 × 1½ inches, the last-named size being that of a copy of the Psalter in diminutive script. Some of the manuscripts consist of a few leaves from old volumes, others contain many hundred pages, and not a few are beautiful specimens of Syriac writing. Three of the manuscripts have been temporarily retained by Professor Harris for further study and for publication, the work being already well advanced at the time of the purchase.

A note appended to Professor Harris's catalogue of the manuscripts describes them as follows : “ Most of these are superbly bound by Wilson of Cambridge (Eng.), and it will be seen that they range over the whole period of Syriac literature, and contain examples of all the great writers. Many of the mss. were acquired at great cost, and where the originals could not be purchased, no expense has been

spared upon the production of good transcripts. The amount of inedita in the collection is very great, in spite of the fact that a number of scholars have had access to the collection, such as Professor Margoliouth (No. 42), Dr. Dietrich (No. 65), Mrs. Gibson (No. 91, 130), Rendel Harris (No. 85, 91), and others. There is work for many more Syriac students in the volumes whose titles are given in the foregoing summary."

There is probably not another such collection in private hands. Good old Syriac manuscripts are now scarce and difficult to acquire, and have already largely passed into the possession of the great libraries of Europe. Our Museum is therefore particularly fortunate in being able to buy Professor Harris's collection. Part of the purchase money was provided by a special contribution from Mr. Schiff, without which we could not have acquired the manuscripts.

The expenditure just described has nearly exhausted the monies held for accessions to the Museum, and it is most desirable that the treasury should be replenished. Gifts would be welcome, either for immediate use or for endowment. Donors may, if they choose, designate the special kinds of purchase to which they wish their gifts applied.

The will of the late Jacob H. Hecht of Boston leaves to the Museum the sum of \$5,000; the gift is, however, not yet available. This is the first legacy for the Museum of which I have had information. In view of the usefulness of the Museum to the University and to the community Mr. Hecht's action is most gratifying and well worth imitation.

Dr. John Orne, Curator of the Arabic Manuscripts, has continued the work of cataloguing our collections.

My last report mentioned the theft of two Arabic manuscripts from the Museum in January, 1904, and the return of one of them. On June 16, 1905, the second was returned.

The importance of exploration in the Semitic field has often been emphasized in these reports. It gives me unusual satisfaction to report that provision has now been made for this object, thanks to the munificence of Mr. Schiff, who has given \$5,000 for preliminary expenses, including equipment, and offers to provide \$10,000 a year for five years. The President and Fellows have appointed a Committee on Exploration in the Orient, who are charged with the supervision of the work.

The Committee have been fortunate in securing the services of Dr. George A. Reisner, whose experience of six years in charge of the Hearst Expedition in Egypt has given him a high rank among

explorers. The President and Fellows have appointed Dr. Reisner to be Director of the expedition for the Museum.

Palestine is the field in which it is proposed to dig, provided, of course, permission is granted by the Turkish authorities. Application for permission is often attended by tedious delays. Special pains have been taken to show to the authorities that we mean to respect the letter and the spirit of the Turkish law regarding antiquities. This law, like that of Greece and Italy, strictly prohibits the exportation of antiquities. It is designed by this law to build up the Imperial Ottoman Museum at Constantinople, under the control of His Excellency Hamdy Bey, already one of the great Oriental museums of Europe.

The law allows the explorer to have photographs, casts when feasible, duplicates under certain restrictions, and the right to publish the results of his work. While the authorities thus promise nothing of consequence in advance, the collection of Babylonian treasures in the Philadelphia Museum shows that they sometimes put a generous construction on the law.

In view of the strictness of the law the conscientious explorer working in Turkish territory must be moved by a higher motive than the acquisition of museum specimens. That motive is found in the hope of clearing up some of the many obscure points in Semitic history and life. This is true in an eminent degree of exploration in Palestine, on account of the extraordinary interest attaching to that country as the home of one of the greatest of the Semitic peoples and the source of three great religions.

At first glance it seems strange how little exploration has been done in Palestine compared with what has been done in Egypt, Babylonia, and Assyria. The reason doubtless is that exploration in Palestine has yielded no such startling results as in the countries named. The discovery of temples and palaces filled with works of art, and of great libraries, is hardly to be expected in Palestine. That land was never so far advanced as these other countries in material civilization. But so great has been its influence in history that we may well be content with discoveries of a more modest nature.

If permitted to dig at a favorable site in Palestine, we believe that we are equipped to do a piece of work more thorough and on a larger scale than has yet been attempted in that land. While anticipating no results of a startling nature, we are not without hope that the hand of time has spared objects of great importance to be revealed through the Harvard Palestinian Expedition.

DAVID G. LYON, *Curator.*

## THE FOGG ART MUSEUM.

TO THE PRESIDENT OF THE UNIVERSITY: —

SIR, — I have the honor to submit the following report on the Fogg Art Museum for the year 1904–05.

Our accessions are as follows: From Mr. E. W. Forbes, '95, three drawings by J. M. W. Turner; four early Italian tempera paintings on panel, — a Madonna and Child with Angels, attributed to Spinello Aretino; one of the same subject attributed to Taddeo di Bartolo; an Adoration of the Magi, which appears like the work of Cosimo Tura; a St. Jerome, by Matteo da Siena; and one oil painting, a portrait of a Cardinal, attributed to Scipio Gaetano, a Roman painter of the sixteenth century. In addition to these, Mr. Forbes has sent us two ancient marble heads, and an ancient Greek marble grave relief. From Mr. James Loeb, a collection of fragments of Arretine moulds, including specimens of the ware, and three early Greek tripods.

To the print collections the following additions have been made: — To the Gray Collection, by purchase out of the income of the Gray Fund, Calvary, a woodcut by Dürer; Prophet Jeremiah, a copperplate engraving of the Baldini-Botticelli series; and a reproduction of the *Hypnerotomachia Poliphili* of 1499. To the Museum Collection: Rivers of England, 18 prints (engraved in mezzotint after designs by J. M. W. Turner), by J. Bromley, T. Lupton, G. H. Phillips, S. W. Reynolds, W. Say, and C. Turner, a gift from Miss Elizabeth G. Norton. A portfolio of 40 prints, engraved in mezzotint and stipple. These are facsimiles of engravings by James Ward and William Ward, an anonymous gift; a portrait of President Eliot, etched by Sidney L. Smith; a portrait of Elias Boudinot, by Waldo and Jewett, engraved by A. B. Durand; a portrait of Sir Leslie Stephen, by G. A. Watts, reproduced in photogravure; *Nuova raccolta di cinquanta motivi pittoreschi e costumi di Roma*, — etchings by Bartolommeo Pinelli, gifts from Professor C. E. Norton; and two prints of landscapes by an unknown engraver, given by Professor M. H. Morgan.

To the collection of photographs only 96 additions were made during the year. These comprise: Mediaeval French Architecture (including three photographs given by Professor Norton), Etruscan

Sculpture, Ancient Greek Architecture and Sculpture, Excavations in Crete, Flemish, Dutch, German, English, and Spanish painting. To the collection of slides there were 185 additions, comprising Mediaeval Italian and French Architecture, Renaissance Italian Architecture, Egyptian, Assyrian, Greek, and Roman Architecture and Sculpture, Ancient painting, Excavations in Crete, Italian, Flemish, Dutch, and German painting. Three slides were given by Professor John H. Wright.

The following additions have been made to our small Museum library: By purchase with the income of the Searle Fund, Catalogue of Early German and Flemish Woodcuts, Vol. I; Catalogue of Greek Sculpture, Vol. III; Catalogue of Terracottas; Catalogue of Vases, Vol. II; Catalogue of Bronzes; Catalogue of Early German and Flemish Prints, Vols. I and II; Catalogue of Playing-Cards; Catalogue of the Schreiber Playing-Cards; Introduction to a Catalogue of Early Italian Prints. These are all British Museum publications, and are not merely catalogues, but also important treatises on the respective subjects. Other books purchased with the income of the Searle Fund are: James McArdell, by Gordon Goodwin; Guide to Casts in the Ashmolean Museum; Bryan's Dictionary of Painters and Engravers, Vols. IV and V (new edition). By purchase with the income of the Prichard Fund, *Klassiker der Kunst*: Raffael, 1 vol., Rembrandt, 1 vol., Tizian, 1 vol., Dürer, 1 vol., Rubens, 1 vol., and Catalogue of the Ryks Museum, Amsterdam. From the Library of Congress we have received the Catalogue of the Gardiner Greene Hubbard Collection of Engravings, and the American Library Association Catalogue; from Mr. Francis Bullard, '86, Catalogue of a Memorial Exhibition of the Works of James McNeill Whistler, and a Catalogue of the Exhibition of the *Liber Studiorum* of J. M. W. Turner, held in the Boston Museum of Fine Arts; from the Trustees of the Boston Museum of Fine Arts, the following Catalogues of Exhibitions held in the Print Department of that Museum: American Etchings, American Engravings on Wood, the Etched Work of Rembrandt, the Work of Women Etchers, Dürer's Engravings, Etchings by Seymour Haden, American Book-Plates, Turner's *Liber Studiorum*, and Work of J. and S. W. Cheney; from Professor C. E. Norton, *Cicognara's Memorie Spettanti alla storia della calcografia*; from an anonymous giver, William Ward and James Ward, by Julia Fraukau; and from Miss Grace Norton, Domenico Morelli, by A. R. Willard. The following books have been purchased with the income of the Randall Fund: *Manuel de l'Amateur d'Estampes*, Vols. I, IV-VI, by Eugène Dutuit, accom-

panied by a portfolio of 37 prints, including reproductions from the following block-books: *Ars Moriendi*, *Biblia Pauperum*, *Apocalypse*, *Canticum Canticorum*, and *Exercitum super Pater Noster*. The following books have also been added: *Harvard Quinquennial Catalogue*; and *A Critical Investigation of the so-called Velasquez in the Boston Museum of Fine Arts*, by Mrs. N. H. Pringsheim.

Our accessions for the year are thus considerable, as well as valuable, and some of them are of highest value. The drawings by Turner are early works. One is a view of Ehrenbreitstein in water-color wash, and belongs to the period of the master's early maturity. The others are both of the same subject, an old boat in foreshortened perspective, with a picturesque background, one of them being in lead-pencil, and the other in neutral wash. They are all fine examples of Turner's power in delineation, and in the frank, economical, and expressive use of transparent water-color, and they admirably supplement our fine series of Turner drawings which, including Mr. Bullard's beautiful *Tintagel*, now on temporary deposit, is, I believe, without any parallel elsewhere in the country. The large panel attributed to Spinello Aretino (1332-1410) is an excellent example of Italian painting of a time much earlier than that to which our other Italian panels belong, and affords instructive illustration of the art of the followers of Giotto. This panel is in good condition, and we are trying the experiment of exhibiting it without a glass, which the condition of most Italian panels renders necessary in our climate. The so-called Taddeo di Bartolo (1363-1436) appears to be in good condition. The work attributed to Matteo da Siena (1435-1495) shows much of what is characteristic of that master, though it does not do justice to his finer powers of feeling and expression. It has suffered little, if at all, from repainting. The small picture which may be by Cosimo Tura (1432-1495) has considerable resemblance in style and handling to the works of Mantegna by whom Tura was strongly influenced. The large oil portrait of a Cardinal by Gaetano (1550-1588), though not an example of finest Italian painting, has a good deal of historic value, and some excellent qualities of execution. Of the two marble heads, one is a very good specimen of later Greek art, and the grave relief is a fine work of its kind, and well illustrates the high degree of excellence in sculpture that was attained by ordinary carvers working under the influence of greater masters. The Arretine moulds and vase fragments are rare and beautiful specimens of a kind of ancient pottery that was peculiar to the locality where it was produced, and of which the supply is now practically ex-



hausted. The Greek tripods belong to a class of works that are not often met with, and are among our most valuable accessions. They were found broken into many fragments which are now being put together, and when this work is completed two of them are to be lent for one year to the Metropolitan Museum of New York.

Photographs were lent 235 times to the Department of Architecture and other departments of the University, to Radcliffe College, and to various outsiders. Slides were lent 158 times to the Department of Architecture, to Radcliffe College, and to various outsiders.

The number of general visitors using photographs in the Museum was less than in other recent years. Of visits by such persons 540 were by members of the University, and 359 by outsiders. But the use of photographs by students of the University in the regular Fine Arts courses has greatly increased. This is clearly due to the new system of conferences in the larger courses. Students in these courses now work here constantly, whereas formerly they rarely visited the Museum save during a few days just before each examination. This is, of course, the kind of use that is most to be desired, and under this system the Museum is now for the first time fully performing its true function. The number of general visitors of whom no record is kept continues about as in former years.

The total number of visits to the print collection for examination of prints in the storage cases was 391, and of these 328 were by members of the University, for the most part students in the course on the History and Principles of Engraving. Of general visitors to the Print-room no record is kept.

An exhibition of nineteenth century engravings, lent by Mr. Francis Bullard, was held in the Print-room from October to March. During the spring months an exhibition of early German and Dutch prints, prints from the plates of Turner's *Liber Studiorum*, and seventeenth century prints, all belonging to our collections, was made, and in the month of April was added to these a series of mezzotint engravings by David Lucas after Constable, lent by Mr. Bullard.

During the year 2639 photographs and 182 slides were catalogued, and a chronological list of painters was made.

In the Print Department 1247 prints were catalogued, and the list of engravings by designers (which, for the Gray Collection, had been completed in the year 1899-1900) is now being extended to include the prints of the Randall Collection. When finished, this list will show what prints these collections contain from the works of any given artist. It will give, also, the name of the engraver in



every instance, as well as the location of every print in the storage cases. Work has also been done on a list of portraits, and a list indicating the different states of plates in the collection of which we have more than one state.

The number of photographs mounted was 3172, and the number of prints mounted was 67.

Photographs and prints have been mounted, and other mechanical work has been done, for various outsiders, for which we have received the sum of \$56.93, which has been paid over to the Bursar to be credited to the Museum.

Since we can no longer charge expenses for furniture and fixtures to the Fogg endowment fund we are unable to provide cases for new accessions of photographs. These accessions have accumulated so that we now have more than 4,000 of them, mounted, and for the most part catalogued, standing in piles on the tops of the old cases, where they must remain practically inaccessible to students until cases can be provided. The need for these cases is therefore urgent. We also need additional shelf room for books.

It is to be hoped that our standing need for suitable additions to the building affording proper light for our growing, and already important, collections of original works in ancient sculpture, vases, bronzes, and Italian painting, may before long be met.

I would again call attention to the fact that collections of objects of art are increasing in various departments of the University, and that economy of administration, as well as convenience of use, would seem to require that these should be, as far as practicable, brought together. The Fogg Museum is the natural depository of all objects of this kind which have importance as works of art.

CHARLES H. MOORE, *Director.*

## THE GERMANIC MUSEUM.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — The most important object added to the Germanic Museum during the academic year 1904–05 is the reproduction, in concrete, of a sandstone slab from the tomb of Ulrich, Baron of Regensburg (+ c.1280), a gift of Dr. Heinrich Angst of Zürich, former director of the Swiss National Museum. In 1903, when the last remnants of the old fortifications of Zürich were torn down, this slab was found imbedded in one of the towers, face down, serving as the lower shelf of an embrasure. Apparently, it had been carried thither in the sixteenth century, when the interior of the Church of the Barefooted Augustinians, its original receptacle, was partly demolished and largely used as building material for secular purposes. Through the rounding off of one of its longer sides, so as to conform its shape to the round wall of the tower, the slab lost part of its inscription. Otherwise it has not suffered from the vandalism to which it was subjected. It shows engraved upon it, in the manner of the *niello* technique, the standing, somewhat over-life size figure of a mediaeval nobleman, bareheaded, with long curly hair, in tunic and mantle, his shoes pointed, pressing the sword with his right hand to his right hip, with the left hand drawing the string of his mantle forward. The figure is remarkable for its freedom, gracefulness, and sweep of outline. The inscription reads : —

SEPVLT DNS' . VLRIC' . DE REGENSBERG . QVI . OBIIT A . . . .

Unquestionably it refers to a member of the baronial family of Regensburg, which, in the latter part of the thirteenth century and the beginning of the fourteenth, played an important part in Zürich history.

Another important addition to our collection is a figure of a Roman soldier, with reproductions of arms, from the Römisch-Germanisches Museum at Mainz, a gift of Mr. Henry W. Putnam of Boston. The statue is a companion figure to the Frankish warrior from the same Museum, and is intended to bring to view the equipment of the Roman troops fighting on German territory in the first century. Its value for our Museum will be fully seen only when it can be exhibited as a supplement to a representative collection of Roman arms found on German soil — a collection which might be

procured from the Mainz Museum, if we had money to acquire it or space to exhibit it.

Among the money contributions received by the Germanic Museum Association for the maintenance of the Museum are the following:

\$10, from Mr. C. W. Ernst of Boston.

\$675, the proceeds of a performance given by Mr. Heinrich Conried of New York for the benefit of the Museum.

\$100, the proceeds of a Schiller centennial celebration given by the Orpheus Musical Society of Boston.

The present balance at the disposal of the Germanic Museum Association amounts to \$1480. The Museum was open to the public throughout the year on two week days and — owing to a generous provision made by the same anonymous donor who provided for this purpose last year — on Thursday and Sunday afternoons. It was visited during that time by 23,057 persons, an increase of 2,011 over the preceding year. On Commencement Day the President of the United States inspected the Museum, and subsequently sent a cable message to the German Emperor expressing his appreciation of the Emperor's splendid gifts.

During the summer, the Curator, while on his vacation in Europe, entered into negotiations with various state governments and city administrations, with a view toward further contributions to the Museum from official sources. These negotiations have since resulted in the definite promise of the Swiss Government to give to the Germanic Museum a full size reproduction of one of the most remarkable works of mediaeval Swiss sculpture: the great sepulchral monument of La Sarraz (fourteenth century). Owing to the large size and the elaborate composition of this monument, it will be reproduced and sent hither in instalments, so that it will be several years before it can be set up here — a fact which, in view of the cramped condition of our present building, is not greatly to be deplored. It should be added that this monument is at present not to be seen in any Museum in Europe. Negotiations with other governments are still pending; but there seems good reason to believe that their outcome will be favorable, and that important gifts will come from a number of German states and cities. These prospective gifts make still more evident the pressing need of a suitable building, set forth in my last report.

Indeed, it may without exaggeration be said that the worthy housing of the objects already in our possession and the rounding out of the Museum into a comprehensive conspectus of the history

of Germanic culture — a task for which the sum of \$500,000 would be needed — is getting to be a question of national importance. The magnificent gifts by the German Emperor, which were installed two years ago, have since been followed by a remarkable series of other demonstrations of German good will toward America. I need only mention the presentation to our Museum of a unique and costly collection of reproductions of ancient German gold and silver ware, brought together by popular subscriptions extended throughout Germany; the gift to the Social Museum of Harvard University of the larger part of the German social exhibit at the Universal Exposition of St. Louis; the exchange of professors between German and American universities, so happily inaugurated through the activity of Professor Ostwald at Harvard University and through the invitation of Professor Peabody to Berlin and the gracious reception given to him by the German Emperor as well as by the university authorities.

The importance of these impressive demonstrations of German good will toward America is obvious. They prove that Germany is ready to enter into still closer relations of mutual confidence and helpfulness with the United States than exist even now. They show that Germany welcomes the coöperation and the competition of the United States in all national activities — industrial, intellectual, and artistic — which tend to promote the welfare, the liberty, and the brotherhood of human kind. The time seems to have come to demonstrate by appropriate action that the American people appreciate and reciprocate the spirit which has manifested itself in these friendly acts of the German Emperor and people. And what better way could be found to erect a lasting and appropriate monument of German-American friendship than by endowing that institution which first attracted the generous attention of the German government, and which is destined to be not only a storehouse of the great artistic productions of the Germanic past, but also a connecting link between modern Germany and modern America — the Germanic Museum of Harvard University?

KUNO FRANCKE, *Curator.*

RADCLIFFE COLLEGE.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — As Dean of Radcliffe College, I have the honor to submit my report for the academic year 1904–05.

The number of students in actual attendance during the year was 416, as against 458 during the preceding year.

Graduate Students . . . . .	56
Seniors . . . . .	61
Juniors . . . . .	47
Sophomores . . . . .	94
Freshmen . . . . .	78
Special Students . . . . .	85
Total . . . . .	416.

At Commencement in June, 1905, seventy-three students, two of whom had completed their residence in an earlier year, received the degree of Bachelor of Arts. Ten students, who had not been registered as Seniors, received the degree. Of the seventy-three successful candidates, one received the degree *summa cum laude*; seventeen received it *magna cum laude*; twenty-seven, *cum laude*.

Nineteen candidates received the degree of Master of Arts. Thirteen of the nineteen had taken their first degree at Radcliffe, the others represented the following colleges : Allegheny College, Boston University, Hollins Institute, Mt. Holyoke College, Smith College, University of South Dakota.

The degree of Doctor of Philosophy was conferred upon Eleanor Harris Rowland, A.B. Radcliffe 1903, A.M. 1904, who took her degree in the special field of Psychology. Her thesis was on “The Aesthetics of the Repetition of Visual Space-Forms.” To this thesis was awarded the Wilby Prize for 1905.

Examinations for admission were held in June, 1905, in Cambridge, Andover, Bonn (Germany), Brookline, Concord (N. H.), Exeter (N. H.), Lynn, Milton, Omaha (Neb.), Portland (Me.), Quincy, South Byfield, Springfield, and Youngstown (Ohio). They were also held in September in Cambridge. Two hundred and ninety-eight candidates presented themselves for examination, two of whom did not complete their examination. Eleven were candi-

dates for admission as Special Students; sixty-nine candidates took part of the examination or worked off admission conditions; one hundred and fifteen took the Preliminary Examinations, and one hundred the Final Examinations. One postponing candidate was rejected.

The results of the Final Examinations are given in the following table:—

	Admitted.	Admitted "Clear."	Rejected.
June . . . . .	81	30	5
September . . . . .	14	1	
Total . . . . .	<u>95</u>		
Total rejected . . . . .	<u>5</u>		
	100		

Ninety-five candidates were admitted as Freshmen in 1905, as against ninety-six in 1904.

Fifty-six Graduate Students registered during the year, thirty-two of whom were from other colleges. Thirty-one students were admitted to nineteen full courses, and ten students to nine half-courses, of the "Courses primarily for Graduates in Harvard University open to competent Students of Radcliffe College."

The members of the Academic Board for 1904–05 were: Professor Byerly (Chairman), and Professors E. L. Mark, S. M. Macvane, H. S. White, J. H. Wright, E. H. Hall, H. C. G. von Jagemann, G. L. Kittredge, C. H. Grandgent.

The Caroline I. Wilby Prize, which was this year awarded to Dr. Rowland for her thesis, was intended as a recognition of advanced work done by women beyond the undergraduate age, and, though withheld for several years, has now been awarded for the sixth time. Miss Herron's thesis on "The Progress of Labor Organization among Women," which won the prize in 1904, has been published by the University of Illinois.

A Fellowship for the year 1905–06 has been given by Lucy Allen Paton, "as a recognition of scholarship and character," to be held by a Graduate Student. The Fellowship has been awarded to Muriel Bothwell Carr, A.B. (McGill) 1898, A.M. (ibid.) 1900, A.M. (Radcliffe) 1902.

The South End House Fellowship, established by Miss Annette P. Rogers in 1903 for a period of two years, has been renewed by her, and the Fellowship awarded to Theresa Sylvia Haley, A.B. 1904, who is studying under the direction of Professor W. Z. Ripley.

At the time that I had the honor of submitting to you my last report, the Radcliffe Auxiliary had in hand a great piece of work,

the attempt to secure for Radcliffe College the Greenleaf estate, a fine bit of land directly opposite the Radcliffe grounds, and deemed by good judges of great importance to the future of the College. The price set by the owners was \$80,000 for the estate as a whole, including the Greenleaf house and two smaller houses on Ash Street. The Auxiliary in a few months raised the sum of \$67,000, purchased the Greenleaf house and 74,300 square feet of land for \$63,500, and secured an option on the Ash Street houses, which are needed to round out the corners of the property. The option expires in April, 1907. Some money to complete the purchase is already in hand, about \$4,500, and it is hardly likely that the remaining sum will not be forthcoming in time.

The Students' building — to be known as Elizabeth Cary Agassiz House — was completed in time for the Class Day and Commencement festivities in June. The house stands at the corner of Mason and James Streets, next to the Radcliffe Gymnasium. It is a beautiful and impressive building in the colonial style, and "composes" admirably with the Gymnasium, as it was intended to do. It contains locker-rooms, club-rooms, rooms for rest and for study, a reading-room, a large dining-room, kitchen and housekeeper's room, a lecture-room which makes a charming little theatre, and a great living-room which has already proved its right to be called "the heart of the house." The dining-room provides daily a good and economical luncheon for about 165 students (the maximum has been 185); the theatre gives an opportunity to bring together the student-body, — an opportunity sadly lacking for many years; in short, for the first time in the history of the College, the health and comfort of the students are adequately provided for, and the various needs of a large day-college are perfectly fulfilled. The need of such a building has been keenly felt for many years by the students, and by their friends, and on Mrs. Agassiz's eightieth birthday, December 5, 1902, more than the money required for the purpose was offered to Radcliffe College in her honor, with the request that the building might bear her name. To the architect of Agassiz House, Mr. A. W. Longfellow, and to two members of the Building Committee, Mrs. Whitman and Mrs. Farlow, the beauty and appropriateness of the building are due, and to them, as to the many friends who have shown their interest and generosity in various ways, Radcliffe is grateful. Among these friends should be specially mentioned the builder, Mr. F. L. Whitcomb. The portrait of Mrs. Whitman given by Mrs. Kuhn, and the memorials of her life and work, described in detail in the report for 1903-04, have been placed in the house,



where, with the possible exception of the window which was Mrs. Whitman's last work, they will permanently remain.

Three of the buildings which were deemed essential to the well-being of Radcliffe, — the Gymnasium, a Hall of Residence, and the Students' House, — have been secured to us; the fourth, a Library adapted to the special needs of the College, will probably soon be ours. To most of the alumnae and undergraduates a Library has seemed the first need of the College, and the Radcliffe College Alumnae Association had taken the first steps toward raising a fund for a Library, when Mr. Andrew Carnegie offered to give \$75,000 for a building, on condition that the friends of Radcliffe should raise an equal sum as new endowment. This offer was accepted by the Council, and it is hoped that the sum which now amounts to \$55,000 will soon be completed. The alumnae have undertaken to provide \$20,000 for the furnishings, and they have already made a good beginning.

Among the gifts of the year we reckon the addition of \$2,500 to the fund of \$2,500 given by the Cantabrigia Club for a scholarship, making a full scholarship; a bequest of \$5,000 from James A. Woolson, of Cambridge, which will be used to establish a scholarship for a student in the Classics; and a bequest of \$10,000 from Sarah W. Whitman, to establish two full scholarships, to be known as the Mary Eliot Parkman Scholarship and the Abby W. May Scholarship. Under the will of Sarah W. Whitman, Radcliffe has also received the large sum of \$100,000. The sum total of the money actually received during the year amounts to rather more than \$184,750. Mrs. Whitman's bequest is unrestricted, and it would go far towards the establishment of the fund for instruction, if the College were at this moment able to devote it to that purpose. This large unrestricted fund of half a million is the prime need of Radcliffe.

The future is full of hope. The rise in the number of students during the current year, as against the losses last year; the admirable quality of the graduate students; the constancy and generosity of our friends; the energy, enthusiasm, and devotion of our alumnae; — these are among the grounds for encouragement. The losses for the year have been of the inevitable kind brought by time to mortals. There have been three resignations from the Council: Professor Clement L. Smith and Miss Longfellow, both from ill-health, and Mrs. Farlow, from the pressure of other duties. These are serious losses. Each one of these has been associated with Radcliffe from the earliest days of the Annex, and their judgment, wisdom, and



devotion have gone far to make the College what it is. Mr. Henry L. Higginson has also resigned his position as Treasurer, a step which he has long thought he must take, on account of his heavy responsibilities and the endless demands on his time and strength and public spirit. His resignation took effect on September 1, 1905, and Mr. Ezra Henry Baker, an Associate of Radcliffe College, who had acted for some years as Assistant Treasurer, has been elected to the Treasurership. The other vacancies in the Council have not as yet been filled. It is a difficult task to find successors to men and women in whom the community have had perfect confidence and with whom it has been an honor and a distinction to serve.

AGNES IRWIN, *Dean.*

# APPENDIX.

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## DEATHS.

*[ During the year beginning September 1, 1904.]*

**GEORGE FRISBIE HOAR**, Overseer. September 30, 1904.

**JOSEPH TRUMBULL STICKNEY**, Instructor in Greek. October 11, 1904.

**EDWARD STICKNEY WOOD**, Professor of Chemistry. July 11, 1905.

**ARTHUR DICKINSON WYMAN**, Assistant in Chemistry. September 29, 1904.

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## RESIGNATIONS.

*[ To take effect September 1, 1905, unless otherwise stated.]*

**ARTHUR KINNEY ADAMS**, Assistant in Geology. October 2, 1905.

**KILBURN ELIE ADAMS**, Assistant in Mechanical Engineering. June 27, 1905.

**HARRY MORGAN AYRES**, Assistant in English. June 27, 1905.

**AUGUSTUS SAMUEL BEATMAN**, Assistant in Education and in History, to take effect February 13, 1905. February 13, 1905.

**JAMES MACKINTOSH BELL**, Proctor. January 9, 1905.

**JAMES MACKINTOSH BELL**, Austin Teaching Fellow in Mining and Metallurgy, to take effect December 31, 1904. January 9, 1905.

**CARLETON FAIRCHILD BROWN**, Instructor in English. June 27, 1905.

**PHILIP GREENLEAF CARLETON**, Instructor in English. September 26, 1905.

**JOHN FELT COLE**, Instructor in Astronomy, to take effect December 1, 1904. November 28, 1904.

**CHARLES ALLERTON COOLIDGE**, Lecturer on Architectural Design. September 26, 1905.

**VANDERVEER CUSTIS**, Assistant in Economics. June 27, 1905.

**JOHN IRVING ESGATE**, Instructor in Mechanical Dentistry. September 26, 1905.

**JAMES AUGUSTUS GEORGE**, Proctor. October 10, 1904.

**JESSE MORE GREENMAN**, Instructor in Botany, to take effect at the end of the current academic year. May 8, 1905.

**FRITZ HAGENS**, Instructor in German. June 27, 1905.

**ARTHUR STEARNS HAWKS**, Assistant in Engineering, to take effect May 1, 1905. May 8, 1905.

**HIBBERT WINSLOW HILL**, Instructor in Bacteriology. October 9, 1905.

**PERCY HODGE**, Assistant in Physics. October 2, 1905.

**RICHARD FAY JACKSON**, Assistant in Chemistry. October 9, 1905.

**HARRIE STUART VEDDER JONES**, Assistant in English. June 27, 1905.

**GEORGE WILLIAM LOW**, Assistant in Geology. June 5, 1905.

**ROLLO LU VERNE LYMAN**, Instructor in Public Speaking. November 13, 1905.

**GEORGE BURGESS MAGRATH**, Assistant in Pathology. October 9, 1905.

- JAMES AMBROSE MOYER**, Instructor in Descriptive Geometry, to take effect February 13, 1905. February 13, 1905.
- CHAUNCEY WILLIAMS NORTON**, Assistant in Anatomy. September 26, 1905.
- RALPH WALTER PAGE**, Proctor. February 13, 1905.
- JOHN KNOWLES PAINE**, Professor of Music. May 22, 1905.
- CHARLES ERNEST PERKINS**, Instructor in Operative Dentistry. October 30, 1905.
- THOMAS NELSON PERKINS**, Graduate Member of the Committee on the Regulation of Athletic Sports. March 27, 1905.
- FRANCIS SAMUEL PHILBRICK**, Instructor and Assistant in Government, to take effect November 1, 1904. October 31, 1904.
- AMON BENTON FLOWMAN**, Assistant in Botany. October 9, 1905.
- WALDO BRUCE RUSSELL**, Auditor of the Randall Hall Association. October 9, 1905.
- HOWARD EDWIN SIMPSON**, Assistant in Physiography and Meteorology. September 26, 1905.
- MACY MILLMORE SKINNER**, Instructor in German. September 26, 1905.
- CLEMENT LAWRENCE SMITH**, Pope Professor of Latin, to take effect November 1, 1904. October 31, 1904.
- KENDALL KERFOOT SMITH**, Assistant in Fine Arts. November 27, 1905.
- OLIVER MITCHELL WENTWORTH SPRAGUE**, Assistant Professor of Economics. September 26, 1905.
- HENRY LEROY STONE**, Assistant in Music. September 26, 1905.
- THOMAS HEAD THOMAS**, Austin Teaching Fellow in Fine Arts. October 30, 1905.
- HENRY SMITH THOMPSON**, Officer in charge of Admission Examinations, to take effect June 1, 1905. October 30, 1905.
- ROBERT PALFREY UTTER**, Assistant in English. June 27, 1905.
- CHARLES FRANCIS WITHINGTON**, Instructor in Clinical Medicine, to take effect February 1, 1905. February 13, 1905.
- FREDERICK SHENSTONE WOODS**, Lecturer on Mathematics. November 13, 1905.

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## APPOINTMENTS.

### FACULTY OF ARTS AND SCIENCES.

[ *Without limit of time, or for more than one year.* ]

- OAKES AMES**, Assistant Director of the Botanic Garden for five years from September 1, 1904. May 1, 1905.
- GEORGE PIERCE BAKER**, Professor of English from September 1, 1905. May 1, 1905.
- GREGORY PAUL BAXTER**, Assistant Professor of Chemistry for five years from September 1, 1905. May 1, 1905.
- HEINRICH CONRAD BIERWIRTH**, Assistant Professor of German for five years from September 1, 1904. November 28, 1904.
- THOMAS NIXON CARVER**, David A. Wells Professor of Political Economy. February 13, 1905.
- JOHN HAYS GARDINER**, Assistant Professor of English for five years from September 1, 1905. May 1, 1905.

- EDWIN BISSELL HOLT**, Assistant Professor of Psychology for five years from September 1, 1905. May 1, 1905.
- EDWARD VERMILYE HUNTINGTON**, Assistant Professor of Mathematics for five years from September 1, 1905. June 5, 1905.
- ALBERT MORTON LYTHGOE**, Instructor in Egyptology from September 1, 1905. May 22, 1905.
- LIONEL SIMEON MARKS**, Assistant Professor of Mechanical Engineering for five years from September 1, 1905. May 1, 1905.
- ROGER BIGELOW MERRIMAN**, Instructor in History from September 1, 1905. March 13, 1905.
- CLIFFORD HERSCHEL MOORE**, Professor of Latin from September 1, 1905. May 22, 1905.
- WILLIAM LUTHER MOWLL**, Assistant Professor of Architecture for five years from September 1, 1905. June 12, 1905.
- ARTHUR ORLO NORTON**, Assistant Professor of the History and Art of Teaching for five years from September 1, 1905. June 27, 1905.
- THOMAS NELSON PERKINS**, Fellow. March 8, 1905.
- RALPH BARTON PERRY**, Assistant Professor of Philosophy for five years from September 1, 1905. March 27, 1905.
- JAMES STURGIS PRAY**, Assistant Professor of Landscape Architecture for five years from September 1, 1905. June 5, 1905.
- EDWARD KENNARD RAND**, Assistant Professor of Latin for five years from September 1, 1905. February 20, 1905.
- WALLACE CLEMENT SABINE**, Professor of Physics from September 1, 1905. May 1, 1905.
- WALTER DANA SWAN**, Instructor in Architecture from September 1, 1905. June 12, 1905.
- HENRY AUGUSTUS TORREY**, Assistant Professor of Chemistry for five years from September 1, 1905. May 1, 1905.
- JOHN ALBRECHT WALZ**, Assistant Professor of the German Language and Literature for five years from September 1, 1905. February 18, 1905.
- ROBERT DECOURCY WARD**, Assistant Professor of Climatology for five years from September 1, 1905. May 1, 1905.
- MINTON WARREN**, Pope Professor of Latin from September 1, 1905. May 22, 1905.
- EDGAR HUIDEKOPER WELLS**, Assistant Dean of Harvard College from June 1, 1905. June 5, 1905.
- CHARLES HENRY WHITE**, Assistant Professor of Mining and Metallurgy for five years from September 1, 1905. May 1, 1905.
- STEPHEN EDGAR WHITE**, Instructor in Electrical Engineering from September 1, 1905. May 1, 1905.
- ROBERT MEARNES YERKES**, Instructor in Psychology from September 1, 1905. June 5, 1905.

[*For 1904-05.*]

- JOHN MEAD ADAMS**, Assistant in Physics. October 10, 1904.
- KILBURN ELIE ADAMS**, Assistant in Mechanical Engineering for the remainder of the current academic year. May 1, 1905.
- AUGUSTUS SAMUEL BEATMAN**, Assistant in History. October 10, 1904.
- AUGUSTUS SAMUEL BEATMAN**, Assistant in Education. October 31, 1904.
- WINTHROP BELLAMY**, Assistant in Chemistry. October 3, 1904.

- HIRAM BINGHAM, Jr., Austin Teaching Fellow in History. October 31, 1904.
- JOHN HAMILTON BLAIR, Assistant in History. October 10, 1904.
- WILLIAM CHARLES BRENKE, Austin Teaching Fellow in Astronomy. November 28, 1904.
- FRANCIS NEWTON BRINK, Assistant in Chemistry. October 10, 1904.
- JAMES BRYCE, Godkin Lecturer. September 27, 1904.
- LEO LEGAY BURLEY, Assistant in History. October 3, 1904.
- HAROLD CANNING CHAPIN, Assistant in Chemistry. October 3, 1904.
- MINTIN ASBURY CHRYSLER, Assistant in Botany. October 31, 1904.
- LATHAM CLARKE, Assistant in Chemistry. October 10, 1904.
- SAMUEL MCCHORD CROTHERS, Ingersoll Lecturer on the Immortality of Man. November 14, 1904.
- PAUL REVERE CURTIS, Austin Teaching Fellow in Mining and Metallurgy, from January 1, 1905, for the remainder of the current academic year. February 20, 1905.
- VANDERVEER CUSTIS, Austin Teaching Fellow in Economics. October 31, 1904.
- IRVING ANGELL FIELD, Assistant in Zoölogy. November 28, 1904.
- EMERSON DAVID FITE, Austin Teaching Fellow in Government. October 3, 1904.
- HARRY LOUIS FREVERT, Austin Teaching Fellow in Chemistry. October 10, 1904.
- EDMUND CARL FROEHLICH, Instructor in Mathematics for the second half-year. February 13, 1905.
- JAMES ANDREW GIBSON, Assistant in Chemistry. October 10, 1904.
- JAMES ABRAM GOLDTHWAITE, Assistant in Chemistry. October 3, 1904.
- JESSE MORE GREENMAN, Assistant at the Gray Herbarium. September 27, 1904.
- ROGER CASTLE GRIFFIN, Austin Teaching Fellow in Chemistry. October 31, 1904.
- ERNST HERMANN PAUL GROSSMANN, Instructor in German. September 27, 1904.
- CHAUNCEY CRAVEN HACKETT, Assistant in English. October 31, 1904.
- ARTHUR STEARNS HAWKS, Assistant in Engineering for the second half-year. February 13, 1905.
- LAWRENCE JOSEPH HENDERSON, Lecturer on Biological Chemistry. October 31, 1904.
- FRANK WILSON CHENEY HERSEY, Instructor in English. October 31, 1904.
- LEWIS DANA HILL, Assistant in Physics for the second half-year. January 14, 1905.
- ROBERT ARNOLD HUBBARD, Assistant in Chemistry. October 3, 1904.
- WILLIAM HAMMETT HUNTER, Assistant in Chemistry. October 10, 1904.
- RICHARD FAY JACKSON, Assistant in Chemistry. October 3, 1904.
- FRED ROBERT JOUETT, Assistant in Anatomy, Physiology, and Hygiene. October 10, 1904.
- ROBERT WILSON KELSO, Assistant in English. October 31, 1904.
- BURRITT SAMUEL LACY, Assistant in Chemistry. October 3, 1904.
- CHESTER ARTHUR LEGG, Assistant in Economics. October 31, 1904.
- FREDERICK FLEMING MCINTOSH, Austin Teaching Fellow in Ore-Dressing and Assaying. October 31, 1904.
- JAMES MARTIN MCNAMARA, Assistant in Chemistry. October 3, 1904.
- EDWARD RUSSELL MARKHAM, Assistant in Mechanical Engineering. October 10, 1904.
- SELDEN OSGOOD MARTIN, Austin Teaching Fellow in Economics. October 31, 1904.

**FRANÇOIS EMILE MATTHES**, Austin Teaching Fellow in Reconnaissance Surveying. October 10, 1904.

**ERNST HEINRICH MENSEL**, Lecturer on German Philology. September 27, 1904.

**ERICH MUENTER**, Instructor in German. September 27, 1904.

**FREDERIC AUSTIN OGG**, Austin Teaching Fellow in History. October 3, 1904.

**EDWIN WILLIAM PAHLOW**, Assistant in History. October 3, 1904.

**EDMUND MORLEY PARKER**, Lecturer on Comparative Administration. October 10, 1904.

**WILLIAM BELMONT PARKER**, Instructor in English. October 31, 1904.

**WILLIAM JOSEPH PELO**, Assistant in Education for the second half-year. February 13, 1905.

**BLISS PERRY**, Lecturer on English Literature. October 10, 1904.

**ARTHUR POPE**, Austin Teaching Fellow in Fine Arts. October 10, 1904.

**CYRUS GUERNSEY PRINGLE**, Botanical Collector for the remainder of the current academic year. May 1, 1905.

**HERBERT WILBUR RAND**, Instructor in Zoölogy. September 27, 1904.

**WILLIAM CHAUNCEY RICE**, Assistant in Government. November 14, 1904.

**ARTHUR WILLIAM RYDER**, Instructor in German. October 10, 1904.

**SCHUYLER B SERVISS**, Austin Teaching Fellow in Physics. October 10, 1904.

**KENDALL KERFOOT SMITH**, Assistant in Fine Arts. October 31, 1904.

**STANLEY ARTHUR STARRATT**, Assistant in Palaeontology. September 27, 1904.

**CHARLES MINER STEARNS**, Instructor in English. October 10, 1904.

**GEORGE GURDON STEELE**, Assistant in Descriptive Inorganic Chemistry, from December 14, 1904, for the remainder of the academic year. March 13, 1905.

**LEROY FENWICK SWIFT**, Assistant in Chemistry. October 10, 1904.

**GEORGE NICOLAS TERZIEFF**, Assistant in Chemistry. October 3, 1904.

**CHARLES MARSHALL UNDERWOOD, Jr.**, Austin Teaching Fellow in Romance Languages. October 10, 1904.

**ROLAND GREENE USHER**, Assistant in History. October 3, 1904.

**JOHN ALBRECHT WALZ**, Lecturer on German Literature. October 31, 1904.

**ARTHUR FISHER WHITTEM**, Instructor in Romance Languages. October 10, 1904.

**HOMER EDWARDS WOODBRIDGE**, Assistant in English. October 31, 1904.

[For 1905-06.]

**ARTHUR KINNEY ADAMS**, Assistant in Geology. May 1, 1905.

**JOHN MEAD ADAMS**, Assistant in Physics. March 13, 1905.

**KILBURN ELIE ADAMS**, Assistant in Mechanical Engineering. May 1, 1905.

**FREDERICK ARTHUR ALDEN**, Assistant in Mechanical Drawing. May 1, 1905.

**OAKES AMES**, Instructor in Botany. March 13, 1905.

**HARRY MORGAN AYRES**, Assistant in English. March 27, 1905.

**NEWTON SAMUEL BACON**, Assistant in Hygiene. March 13, 1905.

**HARRY TORSEY BAKER**, Instructor in English. March 27, 1905.

**JAMES ROBERT BARCLAY**, Assistant in Engineering. June 5, 1905.

**HENRI BAULIG**, Instructor in Romance Languages. March 13, 1905.

**JAMES CARLETON BELL**, Assistant in Philosophy. June 5, 1905.

**WINTHROP BELLAMY**, Assistant in Chemistry. June 5, 1905.

**OTIS FISHER BLACK**, Assistant in the Chemical Laboratory. March 13, 1905.

- HENRY COOK BOYNTON, Instructor in Metallurgy and Metallography. May 1, 1905.
- WILLIAM CHARLES BRENKE, Austin Teaching Fellow in Astronomy. April 10, 1905.
- FLETCHER BRIGGS, Austin Teaching Fellow in German. May 22, 1905.
- CARLETON FAIRCHILD BROWN, Instructor in English. March 27, 1905.
- EDWARD COGGESHALL BROWN, Assistant in Engineering. June 5, 1905.
- HAROLD CHAPMAN BROWN, Assistant in Philosophy. June 5, 1905.
- ALPHONSE BRUN, Instructor in French. March 13, 1905.
- STEPHEN HAYES BUSH, Instructor in Romance Languages. March 13, 1905.
- PHILIP GREENLEAF CARLETON, Instructor in English. March 27, 1905.
- WILLIAM RICHARD CASTLE, Jr., Instructor in English. March 27, 1905.
- FRED WAYNE CATLETT, Assistant in Government. May 1, 1905.
- HAROLD CANNING CHAPIN, Assistant in Chemistry. June 5, 1905.
- ARTHUR HOUSTON CHIVERS, Austin Teaching Fellow in Botany. March 13, 1905.
- MINTIN ASBURY CHRYSLER, Instructor and Assistant in Botany. May 8, 1905.
- LATHAM CLARKE, Instructor in Chemistry. June 5, 1905.
- LEON JACOB COLE, Austin Teaching Fellow in Zoölogy. May 1, 1905.
- WILLIAM MORSE COLE, Instructor in the Principles of Accounting. March 13, 1905.
- WILLIAM ARNOLD COLWELL, Instructor in German. May 22, 1905.
- FREDERICK SHEPHERD CONVERSE, Instructor in Music. May 1, 1905.
- CHARLES ALLERTON COOLIDGE, Lecturer on Architectural Design. June 5, 1905.
- VANDERVEER CUSTIS, Assistant in Economics. May 22, 1905.
- STUART DAGGETT, Austin Teaching Fellow in Economics. May 22, 1905.
- HARVEY NATHANIEL DAVIS, Instructor in Physics. March 13, 1905.
- FRANK MILES DAY, Lecturer on Architectural Design. June 5, 1905.
- ALFRED LEWIS PINNEO DENNIS, Lecturer on Modern History. January 14, 1905.
- ARTHUR STONE DEWING, Assistant in Philosophy. June 5, 1905.
- HORATIO WILLIS DRESSER, Assistant in Philosophy. June 5, 1905.
- ALDRICH DURANT, Assistant in Engineering. June 27, 1905.
- WALTER CHALONER DURFEE, Austin Teaching Fellow in Engineering. May 1, 1905.
- JULIUS WOOSTER EGGLESTON, Assistant in Geology. June 27, 1905.
- WILLIAM CURTIS FARABEE, Instructor in Anthropology. March 13, 1905.
- IRVING ANGELL FIELD, Austin Teaching Fellow in Zoölogy. May 1, 1905.
- HARRY LOUIS FREVERT, Austin Teaching Fellow in Chemistry. June 5, 1905.
- ARTHUR BOWES FRIZELL, Instructor in Mathematics. May 1, 1905.
- BENJAMIN APTHORP GOULD FULLER, Assistant in Philosophy. June 5, 1905.
- HAROLD DE WOLF FULLER, Instructor in English. March 27, 1905.
- ARTHUR HOSMER GALE, Austin Teaching Fellow in Mining and Metallurgy. May 8, 1905.
- ANDREW GARBUTT, Instructor in Modelling. June 27, 1905.
- LUCIUS DWIGHT GRANGER, Austin Teaching Fellow in Metallurgical Chemistry and Metallurgy. May 8, 1905.
- HOWARD LEVI GRAY, Austin Teaching Fellow in History. May 1, 1905.
- JESSE MORE GREENMAN, Instructor in Botany. March 13, 1905.
- CHESTER NOYES GREENOUGH, Instructor in English. March 27, 1905.
- ROGER CASTLE GRIFFIN, Austin Teaching Fellow in Chemistry. June 5, 1905.
- CHAUNCEY CRAVEN HACKETT, Assistant in English. March 27, 1905.

- FRITZ HAGENS, Instructor in German. May 22, 1905.  
JOHN GALENTINE HALL, Assistant in Botany. March 13, 1905.  
THOMAS HALL, Jr., Instructor in English. March 27, 1905.  
LYMAN SAWIN HAPGOOD, Assistant in Hygiene. March 13, 1905.  
WILLIAM CLIFFORD HEILMAN, Instructor in Music. June 12, 1905.  
LAWRENCE JOSEPH HENDERSON, Instructor in Biological Chemistry. March 13, 1905.  
ASBURY HAVEN HERRICK, Instructor in German. May 22, 1905.  
ARTHUR STEDMAN HILLS, Instructor in Public Speaking. March 13, 1905.  
MURRAY ARNOLD HINES, Austin Teaching Fellow in Chemistry. June 5, 1905.  
WILLIAM ERNEST HOCKING, Instructor in Philosophy. June 5, 1905.  
PERCY HODGE, Assistant in Physics. June 27, 1905.  
SILAS WILDER HOWLAND, Assistant in Economics. May 22, 1905.  
PERCY ADAMS HUTCHISON, Assistant in Philosophy. June 5, 1905.  
CARL NEWELL JACKSON, Instructor in Greek. June 5, 1905.  
FRANCIS WAYLAND JOHNSTON, Austin Teaching Fellow in Economics. May 22, 1905.  
ROBERT MATTESON JOHNSTON, Lecturer on Modern Italian History. March 13, 1905.  
HARRIE STUART VEDDER JONES, Assistant in English. March 27, 1905.  
HENRY CRAIG JONES, Assistant in Government. June 5, 1905.  
FRED ROBERT JOUETT, Assistant in Hygiene. March 13, 1905.  
ROBERT WILSON KELSO, Assistant in English. March 27, 1905.  
JOHN SAMUEL KENYON, Assistant in English. June 27, 1905.  
HERMAN BRUNSWICK KIPPER, Austin Teaching Fellow in Chemistry. June 5, 1905.  
ARTHUR BECKET LAMB, Instructor in Physical Chemistry. June 5, 1905.  
ROBERT ADGER LAW, Instructor in English. June 27, 1905.  
FREDERICK WILLIAM CHARLES LIEDER, Austin Teaching Fellow in German. May 22, 1905.  
GEORGE LINCOLN, Instructor in Romance Languages. March 13, 1905.  
GEORGE WILLIAM LOW, Assistant in Geology. May 1, 1905.  
WILLIAM EDWARD LUNT, Assistant in Government. May 1, 1905.  
ROLLO LU VERNE LYMAN, Instructor in Public Speaking. March 13, 1905.  
ROLLO LU VERNE LYMAN, Instructor in English. March 27, 1905.  
NORMAN SHAW MCKENDRICK, Assistant in History. May 1, 1905.  
GEORGE ROGERS MANSFIELD, Austin Teaching Fellow in Geology. May 1, 1905.  
EDWARD RUSSELL MARKHAM, Instructor in Shopwork. May 1, 1905.  
SELDEN OSGOOD MARTIN, Austin Teaching Fellow in Economics. May 22, 1905.  
FRANK RICHARDSON MASON, Assistant in Economics. May 22, 1905.  
ROBERT BELL MICHELL, Instructor in Romance Languages. March 13, 1905.  
JARED SPARKS MOORE, Assistant in Philosophy. June 5, 1905.  
MARTIN MOWER, Instructor in Fine Arts. March 13, 1905.  
WILLIAM LUTHER MOWLL, Instructor in Architecture. June 5, 1905.  
ERICH MUENTER, Instructor in German. May 22, 1905.  
HERMAN DUDLEY MURPHY, Instructor in Drawing from the Life. June 5, 1905.  
JOHN TUCKER MURRAY, Instructor in English. June 27, 1905.



- ARTHUR EDWIN NORTON, Instructor in Mechanical Drawing and Descriptive Geometry. May 1, 1905.
- CHARLES READ NUTTER, Instructor in English. March 27, 1905.
- FREDERIC AUSTIN OGG, Austin Teaching Fellow in History. April 10, 1905.
- ANDREW ABIJAH PARKER, Assistant in Mechanical Drawing. May 1, 1905.
- EDMUND MORLEY PARKER, Lecturer on Comparative Administration. March 13, 1905.
- ROBERT SWAIN PEABODY, Lecturer on Architectural Design. June 5, 1905.
- AMON BENTON PLOWMAN, Assistant in Botany. March 13, 1905.
- ARTHUR POPE, Instructor in Fine Arts. June 5, 1905.
- CYRUS GUERNSEY PRINGLE, Botanical Collector. May 1, 1905.
- PAUL HECTOR PROVANDIE, Assistant in Hygiene. March 13, 1905.
- HERBERT WILBUR RAND, Instructor in Zoölogy. March 13, 1905.
- CONYERS READ, Assistant in History. April 10, 1905.
- WILLIAM CHAUNCEY RICE, Assistant in Government. June 5, 1905.
- RALPH WEBSTER RICHARDS, Assistant in Mineralogy. June 5, 1905.
- LINCOLN WARE RIDDLE, Austin Teaching Fellow in Botany. March 13, 1905.
- DAVID CAMP ROGERS, Instructor in Philosophy. May 1, 1905.
- ARTHUR WILLIAM RYDER, Instructor in German. May 22, 1905.
- ARTHUR WILLIAM RYDER, Instructor in Indic Philology. June 12, 1905.
- GUILFORD DARBY SCHOLL, Austin Teaching Fellow in Ore-Dressing and Assaying. May 8, 1905.
- SCHUYLER B SERVISS, Austin Teaching Fellow in Physics, March 13, 1905; title changed to Assistant in Physics, June 27, 1905.
- ARTHUR BLISS SEYMOUR, Assistant in the Cryptogamic Herbarium. April 10, 1905.
- HOWARD EDWIN SIMPSON, Assistant in Physiography and Meteorology. May 1, 1905.
- MACY MILLMORE SKINNER, Instructor in German. May 22, 1905.
- JOSEPH LINDON SMITH, Instructor in Freehand Drawing, for the second half-year. June 5, 1905.
- KENDALL KERFOOT SMITH, Assistant in Fine Arts. March 13, 1905.
- PHILIP SIDNEY SMITH, Instructor in Geology. May 1, 1905.
- STANLEY ARTHUR STARRATT, Austin Teaching Fellow in Geology. May 8, 1905.
- CHARLES MINER STEARNS, Instructor in English. March 27, 1905.
- VILHJÁLMUR STEFÁNSSON, Assistant in Anthropology. March 13, 1905.
- ELMER EDGAR STOLL, Instructor in English. June 27, 1905.
- HENRY LEROY STONE, Assistant in Music. March 13, 1905.
- RICHARD CLIPSTON STURGIS, Lecturer on Architectural Design. June 5, 1905.
- WALTER DANA SWAN, Instructor in Architecture. June 5, 1905.
- THOMAS HEAD THOMAS, Austin Teaching Fellow in Fine Arts. March 13, 1905.
- KEVORK GARABED TOURIAN, Austin Teaching Fellow in the History of Religion. May 8, 1905.
- ALFRED MARSTON TOZZER, Instructor in Central American Archaeology. March 13, 1905.
- ARTHUR TYNG, Austin Teaching Fellow in Engineering. May 1, 1905.
- ABBOTT PAYSON USHER, Assistant in Government. May 1, 1905.
- ROBERT PALFREY UTTER, Assistant in English. March 27, 1905.

JOHN WILLIAM HENRY WALDEN, Instructor in Latin. February 20, 1905.  
 HERBERT EUGENE WALTER, Assistant in Zoölogy. May 1, 1905.  
 HAROLD BROADFIELD WARREN, Instructor in Freehand Drawing for the first half-year. June 5, 1905.  
 HERMANN JULIUS WEBER, Instructor in German. May 22, 1905.  
 KENNETH GRANT TREMAYNE WEBSTER, Instructor in English. March 27, 1905.  
 EDGAR HUIDEKOPER WELLS, Instructor in English. March 27, 1905.  
 EDMUND MARCH WHEELWRIGHT, Lecturer on Architectural Design. June 5, 1905.  
 ARTHUR FISHER WHITTEM, Instructor in Romance Languages. March 13, 1905.  
 BERTEL GLIDDEN WILLARD, Instructor in Public Speaking. March 13, 1905.  
 FREDERICK SHENSTONE WOODS, Lecturer on Mathematics. June 27, 1905.  
 CHESTER WHITNEY WRIGHT, Austin Teaching Fellow in Economics. May 22, 1905.  
 ROBERT MEARNS YERKES, Instructor in Comparative Psychology. May 1, 1905.

### MEMBERS OF THE ADMINISTRATIVE BOARD OF HARVARD COLLEGE.

*[Appointed September 27, 1904, unless otherwise stated.]*

ARCHIBALD CARY COOLIDGE.	THEODORE LYMAN. Oct. 10, 1904.
GEORGE WASHINGTON CRAM.	CHARLES PALACHE.
JOHN HAYS GARDINER.	CHARLES POMEROY PARKER.
CHARLES BURTON GULICK.	ROBERT DECOURCY WARD.
JOHN GODDARD HART.	JAMES KELSEY WHITTEMORE.
BYRON SATTERLEE HURLBUT, <i>Dean</i> .	ROBERT WHEELER WILLSON.
LEWIS JEROME JOHNSON.	JAY BACKUS WOODWORTH.
CHARLES HENRY CONRAD WRIGHT.	

### MEMBER OF THE ADMINISTRATIVE BOARD OF THE LAWRENCE SCIENTIFIC SCHOOL.

*[September 27, 1904.]*

WILLIAM ERNEST CASTLE.	JAMES LEE LOVE.
EUGENE ABRAHAM DARLING.	ARTHUR ORLO NORTON.
JOHN GODDARD HART.	GEORGE WASHINGTON PIERCE.
IRA NELSON HOLLIS.	CHARLES ROBERT SANGER.
EDWARD CHARLES JEFFREY.	NATHANIEL SOUTHGATE SHALER, <i>Dean</i> .
FRANK LOWELL KENNEDY.	HENRY LLOYD SMYTH.
ARTHUR EDWIN KENNELLY.	HERBERT LANGFORD WARREN.
CHARLES HENRY WHITE.	

## MEMBERS OF THE ADMINISTRATIVE BOARD OF THE GRADUATE SCHOOL.

[*October 31, 1904.*]

<p>MAXIME BÔCHER. THOMAS NIXON CARVER. WILLIAM MORRIS DAVIS. GEORGE LYMAN KITTREDGE.</p>	<p>GEORGE FOOT MOORE. HUGO MÜNSTERBERG. WALLACE CLEMENT SABINE. JOHN HENRY WRIGHT, <i>Dean.</i></p>
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## PROCTORS.

[*For 1904-05.*]

HERBERT SPENCER ALLEN. February 20, 1905, for the second half-year  
ADELBERT AMES, Jr. September 27, 1904.  
HARRY MORGAN AYRES. September 27, 1904.  
ARTHUR ATWOOD BALLANTINE. September 27, 1904.  
WILLIAM GEORGE BARR. September 27, 1904.  
REX MITCHELL BAXTER. February 20, 1905.  
JAMES MACKINTOSH BELL. October 31, 1904.  
HERBERT MELVILLE BOYLSTON. September 27, 1904.  
HERMAN LARUE BROWN. September 27, 1904.  
MORRIS RUGGLES BROWNELL. September 27, 1904.  
LYMAN KENNETH CLARK. September 27, 1904.  
VANDERVEER CUSTIS. September 27, 1904.  
AUGUSTINE DERBY. September 27, 1904.  
ROGER ERNST. September 27, 1904.  
GORDON FAIRCHILD. September 27, 1904.  
JAMES ALFRED FIELD. September 27, 1904.  
PAUL BLANCHARD FISCHER. September 27, 1904.  
ALEXANDER FORBES. September 27, 1904.  
ORVILLE GISH FRANTZ. September 27, 1904.  
ERNEST GEORGE. January 9, 1905, for the remainder of the current academic year.  
JAMES AUGUSTUS GEORGE. September 27, 1904.  
WILLIAM COOK GRAY. September 27, 1904.  
WARWICK GREENE. September 27, 1904.  
DONALD GREGG. September 27, 1904.  
ROGER CASTLE GRIFFIN. September 27, 1904.  
RICHARD INGLIS. January 9, 1905, for the remainder of the current academic year.  
JOHN FRANCIS JENNINGS. September 27, 1904.  
ROBERT PEEBLES KERNAN. September 27, 1904.  
ROSS WATT LYNN. September 27, 1904.  
FRANCIS JOSEPH O'CONNOR. September 27, 1904.  
RALPH WALTER PAGE. October 10, 1904.  
EDWIN WILLIAM PAHLOW. September 27, 1904.  
WILLIAM AINSWORTH PARKER. October 10, 1904.  
DONALD PARSON. October 31, 1904.

JAMES HORACE PATTEN. September 27, 1904.  
 FRANCIS SAMUEL PHILBRICK. September 27, 1904.  
 ELIHU ROOT, Jr. September 27, 1904.  
 ROBERT WILLIAM SAWYER, Jr. September 27, 1904.  
 EARNEST EVERETT SMITH. September 27, 1904.  
 KENDALL KERFOOT SMITH. September 27, 1904.  
 FLAVEL SHURTLEFF, Jr. October 31, 1904.  
 VILHJÁLMUR STEFÁNSSON. September 27, 1904.  
 ROBERT PALFREY UTTER. September 27, 1904.  
 ROY SMITH WALLACE. September 27, 1904.  
 ARTHUR HENRY WEED. September 27, 1904.  
 KENNARD WINSOR. October 10, 1904.

[*For 1905-06.*]

FRANCIS RAYMOND STURTEVANT, Proctor of Divinity Hall. June 27, 1905.

## MEMBERS OF THE BOARD OF EXAMINATION PROCTORS.

OCTOBER 31, 1904.

AUGUSTUS SAMUEL BEATMAN.	HENRY CRAIG JONES.
HERBERT MELVILLE BOYLSTON.	JOHN FRANK LANGMAID.
HENRY COOK BOYNTON.	ROLLO LU VERNE LYMAN.
LEO LEGAY BURLEY.	CHARLES READ NUTTER.
LYMAN KENNETH CLARK.	FRANCIS JOSEPH O'CONNOR.
WILLIAM ARNOLD COLWELL.	EDWIN WILLIAM PAHLOW.
STUART DAGGETT.	JAMES HORACE PATTEN.
EMERSON DAVID FITE.	LOUIS ROSS.
CHARLES EDMUND FRYER.	HOWARD EDWIN SIMPSON.
JAMES AUGUSTUS GEORGE.	VILHJÁLMUR STEFÁNSSON.
JAMES ANDREW GIBSON.	ARTHUR TYNG.
ROGER CASTLE GRIFFIN.	ROLAND GREENE USHER.
LYMAN SAWIN HAPGOOD.	CLEMENT LESLIE VAUGHAN.
ARTHUR DAY HOWARD.	ROGER CLARK WELLS.

CHESTER WHITNEY WRIGHT.

## DIVINITY SCHOOL.

WILLIAM WALLACE FENN, Acting Dean of the Faculty of Divinity during the absence of the Dean. May 8, 1905.

[*Without limit of time, or for more than one year.*]

GEORGE FOOT MOORE, Frothingham Professor of the History of Religion from September 1, 1904. November 14, 1904.

## LAW SCHOOL.

*[For 1904-05.]*

JAMES COOLIDGE CARTER, Lecturer on the Origin, Growth, and Function of Law. October 31, 1904.

SAMUEL HUDSON HOLLIS, Lecturer on Insurance. October 10, 1904.

CLARENCE HARMON OLSON, Lecturer on Admiralty. October 10, 1904.

RUFUS WILLIAM SPRAGUE, Jr., Lecturer on New York Practice. May 1, 1905.

*[For 1905-06.]*

JEREMIAH SMITH, Jr., Lecturer on Massachusetts Practice. May 8, 1905.

## MEDICAL SCHOOL.

*[Without limit of time, or for more than one year.]*

FRANZ PFAFF, Professor of Pharmacology and Therapeutics from September 1, 1905. June 12, 1905.

*[For 1904-05.]*

GEORGE LORIMER BAKER, Assistant in Bacteriology. October 10, 1904.

JOHN WASHBURN BARTOL, Assistant in Clinical Medicine for the remainder of the current academic year. February 13, 1905.

WALTER AUGUSTUS LECOMPTE, Assistant in Otology. October 10, 1904.

FREDERICK TAYLOR LORD, Assistant in Clinical Medicine for the remainder of the current academic year. February 13, 1905.

ERNEST DE WOLFE WALES, Assistant in Otology. October 10, 1904.

GEORGE HENRY WRIGHT, Assistant in Histology. November 14, 1904.

*[For 1905-06.]*

CARL LUCAS ALSBERG, Instructor in Biological Chemistry. June 27, 1905.

GEORGE SHERWIN CLARKE BADGER, Assistant in the Theory and Practice of Physic. June 12, 1905.

GEORGE LORIMER BAKER, Assistant in Bacteriology. June 12, 1905.

FRANKLIN GREENE BALCH, Assistant in Surgery. June 12, 1905.

ALBERT MOORE BARRETT, Assistant in Neuropathology. June 12, 1905.

JOHN WASHBURN BARTOL, Assistant in Clinical Medicine. June 12, 1905.

JOHN BAPST BLAKE, Instructor in Surgery. June 12, 1905.

ELLIOTT GRAY BRACKETT, Assistant in Orthopedics. June 12, 1905.

JOHN LEWIS BREMER, Instructor in Histology and Embryology. June 27, 1905.

GEORGE WASHINGTON WALES BREWSTER, Assistant in Surgery. June 12, 1905.

WALTER REMSEN BRINCKERHOFF, Assistant in Pathology, June 12, 1905; title changed to Instructor in Pathology, June 27, 1905.

FREDERICK STANFORD BURNS, Assistant in Dermatology. June 12, 1905.

CHARLES SHOREY BUTLER, Assistant in Anatomy. June 12, 1905.

RICHARD CLARKE CABOT, Instructor in Clinical Medicine. June 27, 1905.

DAVID CHEEVER, Assistant in Anatomy. June 12, 1905.

HENRY ASBURY CHRISTIAN, Instructor in the Theory and Practice of Physic. June 12, 1905.

- EDMUND WRIGHT CLAP, Assistant in Ophthalmology. June 12, 1905.  
FREDERIC CODMAN COBB, Assistant in Laryngology. June 12, 1905.  
ERNEST AMORY CODMAN, Assistant in Surgery. June 12, 1905.  
ROCKWELL AUGUSTUS COFFIN, Assistant in Laryngology. June 12, 1905.  
JOHN MATTHEW CONNOLLY, Assistant in Chemistry. June 12, 1905.  
ALGERNON COOLIDGE, Jr., Clinical Instructor in Laryngology. June 12, 1905.  
EDWARD COWLES, Clinical Instructor in Mental Diseases. June 12, 1905.  
GEORGE ARTHUR CRAIGIN, Clinical Instructor in Pediatrics. June 12, 1905.  
LEROI GODDARD CRANDON, Assistant in Surgery. June 12, 1905.  
EUGENE ANTHONY CROCKETT, Instructor in Otology. June 12, 1905.  
ELBRIDGE GERRY CUTLER, Instructor in the Theory and Practice of Physic.  
June 12, 1905.  
JOHN DANE, Assistant in Orthopedics. June 12, 1905.  
LINCOLN DAVIS, Instructor in Anatomy. June 12, 1905.  
THOMAS AMORY DEBLOIS, Clinical Instructor in Laryngology. June 12, 1905.  
FRANCIS PARKMAN DENNY, Assistant in Clinical Medicine. June 12, 1905.  
JAMES CROWLEY DONOGHUE, Assistant in Histology. June 12, 1905.  
CHARLES HUNTER DUNN, Assistant in Pediatrics. June 12, 1905.  
SAMUEL HOLMES DURGIN, Lecturer on Hygiene. June 12, 1905.  
EUGENE ELLSWORTH EVERETT, Assistant in Bacteriology. June 12, 1905.  
JOHN WOODFORD FARLOW, Clinical Instructor in Laryngology. June 12, 1905.  
WILLIAM EDWARD FAULKNER, Assistant in Surgery. June 12, 1905.  
ELISHA FLAGG, Assistant in Anatomy. June 12, 1905.  
LEO VICTOR FRIEDMAN, Assistant in Obstetrics. June 12, 1905.  
LANGDON FROTHINGHAM, Austin Teaching Fellow in Bacteriology. June 12,  
1905.  
GEORGE WASHINGTON GAY, Lecturer on Surgery. June 12, 1905.  
JOEL ERNEST GOLDTHWAIT, Assistant in Orthopedics. June 12, 1905.  
CHARLES MONTRAVILLE GREEN, Secretary of the Faculty of Medicine. June  
12, 1905.  
ROBERT BATTEY GREENOUGH, Instructor in Surgery. June 12, 1905.  
PHILIP HAMMOND, Assistant in Otology. June 12, 1905.  
FRANCIS BISHOP HARRINGTON, Lecturer on Surgery. June 12, 1905.  
HENRY HILL HASKELL, Assistant in Ophthalmology. June 12, 1905.  
LAWRENCE JOSEPH HENDERSON, Instructor in Biological Chemistry. June 27,  
1905.  
HENRY FOX HEWES, Instructor in Clinical Chemistry. June 12, 1905.  
HIBBERT WINSLOW HILL, Instructor in Bacteriology. June 12, 1905.  
EDWIN EVERETT JACK, Instructor in Ophthalmology. June 12, 1905.  
HENRY JACKSON, Instructor in Clinical Medicine. June 12, 1905.  
JAMES MARSH JACKSON, Assistant in Clinical Medicine. June 12 1905.  
DANIEL FISKE JONES, Assistant in Surgery. June 12, 1905.  
ELLIOTT PROCTOR JOSLIN, Instructor in the Theory and Practice of Physic.  
June 12, 1905.  
PHILIP COOMBS KNAPP, Clinical Instructor in Diseases of the Nervous System.  
June 12, 1905.  
MAYNARD LADD, Assistant in Pediatrics. June 12, 1905.  
WALTER AUGUSTUS LECOMPTE, Assistant in Otology. June 12, 1905.  
FREDERIC THOMAS LEWIS, Instructor in Histology and Embryology. June 27,  
1905.

- RALPH STAYNER LILLIE, Instructor in Physiology. June 12, 1905.  
EDWIN ALLEN LOCKE, Assistant in Clinical Medicine. June 12, 1905.  
FREDERICK TAYLOR LORD, Assistant in Clinical Medicine. June 12, 1905.  
HOWARD AUGUSTUS LOTHROP, Instructor in Surgery. June 12, 1905.  
ROBERT WILLIAMSON LOVETT, Assistant in Orthopedics. June 12, 1905.  
FRED BATES LUND, Assistant in Surgery. June 12, 1905.  
GEORGE BURGESS MAGRATH, Assistant in Pathology. June 12, 1905.  
HENRY ORLANDO MARCY, Jr., Assistant in Anatomy. June 12, 1905.  
SAMUEL JASON MIXTER, Lecturer on Surgery. June 12, 1905.  
GEORGE HOWARD MONKS, Lecturer on Surgery. June 12, 1905.  
JOHN LOVETT MORSE, Instructor in Pediatrics. June 12, 1905.  
HARRIS PEYTON MOSHER, Assistant in Anatomy and Laryngology. June 12, 1905.  
FRED TOWSLEY MURPHY, Austin Teaching Fellow in Surgery. June 12, 1905.  
LOUIS NELSON, Assistant in Materia Medica. June 12, 1905.  
FRANKLIN SPILMAN NEWELL, Instructor in Obstetrics and Assistant in Gynecology. June 12, 1905.  
CHAUNCEY WILLIAMS NORTON, Assistant in Anatomy. June 12, 1905.  
WILLIAM NOYES, Clinical Instructor in Mental Diseases. June 12, 1905.  
CALVIN GATES PAGE, Assistant in Bacteriology. June 12, 1905.  
FRANCIS WINSLOW PALFREY, Assistant in Bacteriology. June 12, 1905.  
HENRY JOSEPH PERRY, Assistant in Bacteriology. June 12, 1905.  
CHARLES ALLEN PORTER, Instructor in Surgery. June 12, 1905.  
ABNER POST, Instructor in Syphilis. June 12, 1905.  
JOSEPH HERSEY PRATT, Assistant in the Theory and Practice of Physic. June 12, 1905.  
ALEXANDER QUACKENBOSS, Instructor in Ophthalmology. June 12, 1905.  
WILLIAM HENRY ROBEY, Jr., Assistant in Clinical Medicine. June 12, 1905.  
SAMUEL ROBINSON, Assistant in Anatomy. June 12, 1905.  
DAVID DANIEL SCANNELL, Assistant in Anatomy. June 12, 1905.  
CHARLES MORTON SMITH, Assistant in Syphilis. June 12, 1905.  
WILLIAM HENRY SMITH, Assistant in Clinical Medicine. June 12, 1905.  
ELMER ERNEST SOUTHARD, Instructor in Neuropathology. June 12, 1905.  
FRED MAURICE SPALDING, Assistant in Ophthalmology. June 12, 1905.  
ARTHUR KINGSBURY STONE, Assistant in the Theory and Practice of Physic. June 12, 1905.  
MALCOLM STORER, Assistant in Gynaecology. June 12, 1905.  
HOWARD TOWNSEND SWAIN, Assistant in Obstetrics. June 12, 1905.  
EDWARD WYLLYS TAYLOR, Assistant in Neurology. June 27, 1905.  
EZRA RIPLEY THAYER, Lecturer on the Relation of the Medical Profession to the Law and the Courts. June 12, 1905.  
PAUL THORNDIKE, Instructor in Genito-urinary Surgery. June 12, 1905.  
JAMES ROCKWELL TORBERT, Assistant in Obstetrics. June 12, 1905.  
HARVEY PARKER TOWLE, Assistant in Dermatology. June 12, 1905.  
MAURICE PAUL OCTAVE VEJUX-TYRODE, Instructor in Pharmacology. June 12, 1905.  
HERMAN FRANK VICKERY, Instructor in Clinical Medicine. June 12, 1905.  
RICHARD GOODWIN WADSWORTH, Assistant in Anatomy. June 12, 1905.  
ERNEST DEWOLFE WALES, Assistant in Otology. June 12, 1905.  
GEORGE LINCOLN WALTON, Clinical Instructor in Diseases of the Nervous System. June 12, 1905.

GEORGE ARTHUR WATERMAN, Assistant in Neurology. June 12, 1905.

FRANCIS SEDGWICK WATSON, Lecturer on Genito-urinary Surgery. June 12, 1905.

CHARLES JAMES WHITE, Instructor in Dermatology. June 12, 1905.

FRANKLIN WARREN WHITE, Assistant in the Theory and Practice of Physic. June 12, 1905.

GEORGE HENRY WRIGHT, Assistant in Histology. June 12, 1905.

JAMES HOMER WRIGHT, Instructor in Pathology. June 12, 1905.

ERNEST BOYEN YOUNG, Assistant in Gynaecology. June 12, 1905.

## MEMBERS OF THE ADMINISTRATIVE BOARD OF THE MEDICAL SCHOOL.

[For 1904-05.]

OCTOBER 10, 1904.

WALTER BRADFORD CANNON.

WILLIAM LAMBERT RICHARDSON, *Dean*.

CHARLES MONTRAVILLE GREEN.

FREDERICK CHEEVER SHATTUCK.

CHARLES HARRINGTON.

JOHN COLLINS WARREN.

FRANK BURR MALLORY.

WILLIAM FISKE WHITNEY.

EDWARD STICKNEY WOOD.

## DENTAL SCHOOL.

[For 1904-05.]

FREDERICK BRADLEY, Instructor in Operative Dentistry, June 20, 1904; title changed to Lecturer on Operative Dentistry, October 10, 1904.

FREDERICK MATTHEW CASSIDY, Assistant Demonstrator of Mechanical Dentistry. October 10, 1904.

SAMUEL TUTTLE ELLIOTT, Instructor in Operative Dentistry. October 10, 1904.

EDWIN LINWOOD FARRINGTON, Instructor in Extracting and Anaesthesia. October 10, 1904.

ERNEST JEWETT HART, Instructor in Extracting and Anaesthesia. October 10, 1904.

GEORGE HOWARD MONKS, Instructor in Surgical Pathology. October 10, 1904.

LESLIE HERBERT NAYLOR, Instructor in Operative Dentistry. October 10, 1904.

JAMES JOSEPH O'BRIEN, Instructor in Extracting and Anaesthesia. October 10, 1904.

HENRY CARLTON SMITH, Instructor in Physiological and Dental Chemistry. December 12, 1904.

WILLIAM DANIEL SQUAREBRIGS, Instructor in Extracting and Anaesthesia. October 10, 1904.

JULIUS GEORGE WILLIAM WERNER, Clinical Instructor in Operative Dentistry. October 10, 1904.

[For 1905-06.]

LAWRENCE WILLS BAKER, Instructor in Orthodontia. June 12, 1905.

EDWIN CARTER BLAISDELL, Instructor in Operative Dentistry. June 12, 1905.

JOHN BAPST BLAKE, Instructor in Surgery. June 12, 1905.

FREDERICK BRADLEY, Lecturer on Operative Dentistry. June 12, 1905.



- ERNEST HOWARD CHUTE, Instructor in Mechanical Dentistry. June 12, 1905.
- DWIGHT MOSES CLAPP, Clinical Lecturer on Operative Dentistry. June 12, 1905.
- HAROLD DEWITT CROSS, Demonstrator of Mechanical Dentistry. June 12, 1905.
- DWIGHT WARD DICKINSON, Demonstrator of Operative Dentistry. June 12, 1905.
- JOHN DANA DICKINSON, Clinical Instructor in Mechanical Dentistry. June 12, 1905.
- JOHN WALKER DICKINSON, Instructor in Mechanical Dentistry. June 12, 1905.
- FORREST GREENWOOD EDDY, Instructor in Operative Dentistry. June 12, 1905.
- ARTHUR WARREN ELDRED, Instructor in Mechanical Dentistry. June 12, 1905.
- SAMUEL TUTTLE ELLIOTT, Instructor in Operative Dentistry. June 12, 1905.
- JOHN IRVING ESGATE, Instructor in Mechanical Dentistry. June 12, 1905.
- JOHN WESLEY ESTABROOKS, Instructor in Mechanical Dentistry. June 12, 1905.
- EDWIN LINWOOD FARRINGTON, Instructor in Extracting and Anaesthesia. June 12, 1905.
- JAMES AUSTIN FURFEY, Instructor in Operative Dentistry. June 12, 1905.
- AMOS IRVING HADLEY, Instructor in Mechanical Dentistry. June 12, 1905.
- ERNEST JEWETT HART, Instructor in Extracting and Anaesthesia. June 12, 1905.
- THOMAS BERNARD HAYDEN, Instructor in Mechanical Dentistry. June 12, 1905.
- ELBRIDGE DECOSMOS KING, Instructor in Mechanical Dentistry. June 12, 1905.
- MARQUIS D LITTIG, Instructor in Operative Dentistry. June 12, 1905.
- ELMER JOSEPH MARSTON, Instructor in Extracting and Anaesthesia. June 12, 1905.
- LEROY MATTHEW SIMPSON MINER, Instructor in Extracting and Anaesthesia. June 12, 1905.
- GEORGE HOWARD MONKS, Lecturer on Surgery. June 12, 1905.
- JAMES JOSEPH O'BRIEN, Instructor in Extracting and Anaesthesia. June 12, 1905.
- HARRY SNOW PARSONS, Instructor in Mechanical Dentistry. June 12, 1905.
- JOSEPH TOTTEN PAUL, Instructor in Operative Dentistry. June 12, 1905.
- CHARLES ERNEST PERKINS, Instructor in Operative Dentistry. June 12, 1905.
- NORMAN GREENE REOCH, Instructor in Orthodontia. June 12, 1905.
- CHARLES WILLIAM RODGERS, Instructor in Dental Materia Medica. June 12, 1905.
- MELVILLE FORREST ROGERS, Instructor in Operative Dentistry. June 12, 1905.
- HARRY BENJAMIN SHUMAN, Instructor in Oral Surgery. June 12, 1905.
- HENRY CARLTON SMITH, Lecturer on Dental Chemistry. June 12, 1905.
- DAVID FREDERICK SPINNEY, Instructor in Mechanical Dentistry. June 12, 1905.
- WILLIAM DANIEL SQUAREBRIGS, Instructor in Extracting and Anaesthesia. June 12, 1905.
- WILFRED HARLOW STARRATT, Instructor in Operative Dentistry. June 12, 1905.
- ARTHUR HENRY STODDARD, Clinical Lecturer on Mechanical Dentistry. June 12, 1905.

**EDWARD WYLLYS TAYLOR**, Instructor in Neurology. June 12, 1905.

**JULIUS GEORGE WILLIAM WERNER**, Clinical Instructor in Operative Dentistry.  
June 12, 1905.

**ROBERT WHITEHILL**, Instructor in Operative Dentistry. June 12, 1905.

## MEMBERS OF THE ADMINISTRATIVE BOARD OF THE DENTAL SCHOOL.

[1904-05.]

OCTOBER 10, 1904.

**WALDO ELIAS BOARDMAN**.

**DWIGHT MOSES CLAPP**.

**CHARLES ALBERT BRACKETT**.

**WILLIAM PARKER COOKE**.

**EDWARD CORNELIUS BRIGGS**.

**WILLIAM HENRY POTTER**.

**EUGENE HANES SMITH**, *Dean*.

## BUSSEY INSTITUTION.

[*For the Calendar year 1904.*]

**JOHN GEORGE JACK**, Lecturer at the Arnold Arboretum. September 27, 1904.

[*For 1904-05.*]

**CLIFTON HARLAN PAIGE**, Instructor in Mathematics and Surveying. October 10, 1904.

[*For 1905-06.*]

**DANIEL ALLEN CLARKE**, Assistant in Horticulture. May 8, 1905.

**FRANK THOMPSON DILLINGHAM**, Instructor in Agricultural Chemistry. May 8, 1905.

**CLIFTON HARLAN PAIGE**, Instructor in Mathematics and Surveying. May 8, 1905.

**JOHN HAMILTON ROBINETTE**, Instructor in Agriculture. May 8, 1905.

**ALBERT EDWARD SHEDD**, Assistant in Horticulture. May 8, 1905.

## OTHER APPOINTMENTS.

**HENRY PICKERING WALCOTT**, Chairman of the Corporation during the absence of the President; a member of all the Faculties of the University, with the powers and duties of the President therein during the absence of the President; to act as the ordinary medium of communication between the Corporation and the Board of Overseers, during the absence of the President. January 14, 1905.

[*Without limit of time, or for more than one year.*]

**WALTER SAFFORD BURKE**, Inspector of Grounds and Buildings from September 1, 1904. September 27, 1904.

**CHARLES WILLIAM ELIOT**, Member of the Administrative Board of the School for Social Workers. June 12, 1905.

**SAMUEL HENSHAW**, a member of the Faculty, and Curator, of the Museum of Comparative Zoölogy. October 3, 1904.

**JOSEPH LEE**, Member of the Administrative Board of the School for Social Workers. June 12, 1905.

**CHARLES AUGUSTUS MAHADY**, Superintendent of the Reading Room (Library) from September 1, 1904. October 31, 1904.

**FRANCIS GREENWOOD PEABODY**, Member of the Administrative Board of the School for Social Workers. June 12, 1905.

**ALFRED CLAGHORN POTTER**, Assistant Librarian from September 1, 1904. October 31, 1904.

**GEORGE WASHINGTON ROBINSON**, Secretary of the Graduate School from September 1, 1905. November 14, 1904.

**CHARLES MINER STEARNS**, Regent from September 1, 1905. June 27, 1905.

**GEORGE PARKER WINSHIP**, Curator of Mexican History from September 1, 1905. May 8, 1905.

[*For 1905-06.*]

**WALTER LICHTENSTEIN**, Curator of the Hohenzollern Collection of German History for one year from June 1, 1905. May 8, 1905.

**WALDO BRUCE RUSSELL**, Auditor of the Randall Hall Association. June 27, 1905.

#### PREACHERS TO THE UNIVERSITY.

**LYMAN ABBOTT**. June 27, 1905.

**HENRY VAN DYKE**. May 8, 1905.

**EDWARD CALDWELL MOORE**. May 8, 1905.

**FRANCIS GREENWOOD PEABODY**. June 27, 1905.

#### COMMITTEE ON THE REGULATION OF ATHLETIC SPORTS.

APPOINTED JUNE, 27, 1905, UNLESS OTHERWISE STATED.

##### *Faculty Members:*

**ROGER BIGELOW MERRIMAN**.

**EDWARD HALL NICHOLS**.

**HORATIO STEVENS WHITE**.

##### *Graduate Members:*

**NORMAN WILLIAMS BINGHAM, Jr.**

**GEORGE RICHMOND FEARING, Jr.**

**ROBERT FREDERICK HERRICK**. March 27, 1905.

#### TRUSTEES OF THE MUSEUM OF FINE ARTS.

NOVEMBER 14, 1904.

**WILLIAM STURGIS BIGELOW**.

**ARTHUR TRACY CABOT**.

**JOHN TEMPLEMAN COOLIDGE, Jr.**

**PROPOSED AGREEMENT BETWEEN HARVARD UNIVERSITY  
AND THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
FOR COÖPERATION AND ALLIANCE IN THE CONDUCT  
AND PROMOTION OF EDUCATION IN INDUSTRIAL SCIENCE.**

Harvard University and the Massachusetts Institute of Technology, being convinced, after a careful consideration of the conditions which affect the work of education in industrial science, that such work can be greatly advanced and enlarged by a coöperation of the two institutions, in order to secure mutual assistance, render possible a larger enterprise, promote economy, avoid duplication and competition, and give to the purpose of donors who have bestowed money in trust for that object a fuller accomplishment, do make this agreement, which shall endure so long as it shall be found to serve, to the satisfaction of both institutions, the objects above declared. But, whereas the carrying out of such agreement will require the employment of the income of the funds which the University holds, or will hereafter hold in trust, and the University feels that faithfulness in the performance of these trusts which it has accepted is its first duty, to which all other considerations must yield, this agreement shall not go into effect until and unless the University shall have applied to the Supreme Judicial Court for instructions and the court shall have made a decree that this agreement may be carried out without violation of its duties as a trustee and in accordance with law and equity.

I. The organization of the University, the organization of the Institute, and the title of each to its property and funds shall remain unaffected by this agreement, as shall also the rights and duties of each in investing and managing its funds.

II. The institution for the combined work of promoting and furnishing education in industrial science, which it is the object of this agreement to establish, shall retain the name of the Massachusetts Institute of Technology; it shall be under the direction of an Executive Committee, and the instruction therein shall be given by a Faculty, which two bodies shall be constituted as herein below provided.

III. The said Executive Committee shall consist of nine persons, to be designated by the Massachusetts Institute of Technology, of whom two shall be the President of the Corporation of the Institute and the Treasurer of the Institute, and three shall be members of the Corporation of the University.

Subject to the restrictions herein below expressed, the said Executive Committee shall have the general administration and superintendence of all matters concerning said combined work, including the appointment of officers of instruction and government, and of servants, the power to remove any of them, the fixing of their salaries and the prescribing of their duties, the care of buildings, property, and equipment, the appropriation of money put at its disposal under this agreement, the fixing,

collecting, and expending of students' fees, and the supervision and direction of the work of the Faculty, these being substantially the powers now conferred on the Executive Committee of the Institute by its by-laws; it being, however, expressly provided that all appropriations from money furnished either by the University or by the Institute, and all proposed appointments or removals of officers whose salaries are to be paid therefrom, shall be submitted to the Corporation concerned and approved by it before being finally adopted, it being understood that students' fees shall be deemed to be furnished by the Institute, and that no change shall be made in those fees without its approval.

The said Executive Committee shall keep records of its proceedings, and shall make reports to the Corporation of the University and the Corporation of the Institute annually, and at such other times as either Corporation may request.

IV. The President of the Institute for the time being shall be the President of the said Executive Committee, and shall preside at its meetings, when present. His salary, as fixed by the Corporation of the Institute, shall be paid from the funds furnished by the Institute. He shall be the Chairman of the Faculty, shall have the superintendence of the several departments, and shall act as general executive and administrative officer, subject to the direction and control of said Executive Committee. He shall annually make a report to the Corporation of the University and to the Corporation of the Institute. Whenever a person shall vacate the office of President of the Institute, he shall thereupon cease to be a member of the said Executive Committee.

V. The Treasurer of the Massachusetts Institute of Technology shall be *ex officio* the Treasurer of the said Executive Committee. He shall, as Treasurer of the said Executive Committee, have charge of the funds put at the disposal of said committee, shall make such payments as the committee may authorize, shall keep accurate accounts of all money received and expended, and shall make report of his doings annually, or oftener if required, to the said committee, and to the Corporation of the University and to the Corporation of the Institute.

VI. The Faculty shall consist of all the present professors, associate professors, and assistant professors of the Institute, and all professors, associate professors, and assistant professors of the University who now give courses of instruction leading to degrees in industrial science, and such officers hereafter appointed as said Executive Committee may designate. The present professors, associate professors, and assistant professors of the University as aforesaid shall not be removed nor have their present salaries reduced without the consent of the Corporation of the University.

Subject to the supervision and direction of the said Executive Committee, the Faculty shall have charge of instruction and discipline.

VII. Subject to the reservations hereinafter set forth, the University shall place at the disposal of said Executive Committee, as above pro-

vided, the net income of all funds which are now credited on its books to the credit of the Lawrence Scientific School, also the use of all machinery, instruments, and equipment which the University holds, and the income of all property which it may hereafter acquire for the promotion of instruction in industrial science, and also three-fifths, but no more, of the net income which may accrue from the bequest and devise of the late Gordon McKay.

VIII. Subject to the reservations herein set forth, the Institute shall place at the disposal of the said Executive Committee the net income of all funds and the use of all property and equipment which the Institute may hold for the promotion of instruction in industrial science, reserving only such amounts and property as it may require to maintain its organization and to carry on such functions as may remain to it independently of the promotion of industrial science.

IX. In so far as money contributed by either Corporation under this agreement may be used by the said Executive Committee for the purchase of equipment or supplies, the title thereto shall be in the Corporation whose money is appropriated therefor.

X. The site of the institution shall be in Boston on the right bank of the Charles River, as nearly as practicable opposite to Harvard Square, and the Massachusetts Institute of Technology shall there erect, furnish, and equip buildings having the capacity of at least its present buildings. But the Institute shall not be required to proceed with such purchase and construction until it shall have sold a sufficient part of the land which it now owns. Provided, however, that this agreement shall be avoided if at the end of four years from the time when this agreement goes into effect the Institute shall not have purchased said land and proceeded to a substantial extent with such construction.

XI. Within three years after the Massachusetts Institute of Technology begins the construction of such new buildings, if the Institute is then prepared to give in its new location to the students of the Lawrence Scientific School all needed instruction in industrial science, the Lawrence Scientific School shall be discontinued as a separate school of industrial science so long as this agreement remains in force.

XII. The degrees of Bachelor, Master and Doctor in Science, so far as given in industrial science, and all degrees in engineering, together with the requirements of courses of study leading to these degrees, shall be within the province of the Faculty; and these degrees shall be conferred by the Corporations of the University and the Institute, acting separately.

XIII. Male students in the Institute shall have the same privileges as students in Harvard University in the use of the playgrounds, museums, and libraries of the University.

Under regulations to be made by the two Corporations, and on payment of proper fees, students of the Institute shall be admitted to courses of instruction and the use of laboratories of the University, outside of those pertaining to industrial science, and students of the University to the courses and use of laboratories of the Institute.

XIV. The Corporation and Overseers of the University and the Corporation of the Massachusetts Institute of Technology shall each have full right at all times to inspect the institution, and suggest to the said Executive Committee changes in the methods of management.

XV. The Department of Architecture in the University and in the Institute respectively are not included in this agreement, but remain unaffected hereby.

XVI. It is expressly provided that, as regards the funds and property of the University and of the Institute respectively, this agreement shall be subject to any special terms and requirements upon which such funds and property may be held; and any property or funds which may be held at any time by either Corporation under such terms and restrictions as would prevent the use of them in the precise manner contemplated by this agreement shall, nevertheless, be used by the two Corporations respectively for the support, benefit, or encouragement of the scheme agreed upon, in such manner as may be permissible and in accordance with the trusts upon which they may be held.

XVII. The arrangements established by this agreement may be terminated at any time either by the President and Fellows of Harvard University or by the Corporation of the Massachusetts Institute of Technology, upon reasonable notice to the other Corporation.

In the event of the termination of this agreement, the Massachusetts Institute of Technology must pay, at such prices and upon such terms as the parties may agree upon, and, if they cannot agree thereon, as may be fixed by arbitration (usual arbitration clause), for any buildings or fixtures upon said site, paid for with funds furnished by the University.

XVIII. This agreement shall take effect when finally adopted and approved by the Corporation and the Overseers of the University and the Corporation of the Institute, and when and if a decree of the Supreme Judicial Court, as provided for in the preamble hereof, shall have been obtained.

#### TEACHERS' ENDOWMENT FUND.

TO THE ALUMNI OF HARVARD COLLEGE:—

Great as is Harvard University we sons of Harvard turn back to the old College, the School of Liberal Arts, for our happiest memories and highest ideals.

The heart of the University is the College, the Alma Mater which receives the boys from their homes and leads them into her spirit and high traditions. The heart of the College is the teachers. The position of Harvard to-day among American Universities is due not so much to its age, traditions, or able administration as to its noble line of teachers. That the teachers in the College should be the best in the land; that the older professors should be free from the cares of a straitened income; that the younger teachers should be able to give themselves without distraction to their work; that the best men should not be drawn away to



other Colleges but should see before them reasonable promotion in work and salary, is essential to the leadership of Harvard and the culture of her sons.

Great gifts have been made for special objects and different departments of the University in recent years, but the addition to the endowment of the teaching force of the old College has been comparatively small. Meanwhile students, teachers, subjects, and courses have multiplied. The classics, philosophy, modern languages, history, mathematics, the standard studies, have all increased their corps of teachers.

With what results?

Facing deficits in seven of the past nine years, the Corporation has now cut down the general expenses to the danger point, has refused the usual advance in salaries and reduced the standard of salaries of new teachers until on December 14, 1904, the Overseers passed this vote: —

“ That it is the sense of this Board that salaries of professors and instructors should be maintained and that the customary and expected increase of salary be paid in every instance, irrespective of any other economies.”

The College salary list is as follows: —

57 Professors :

13	receive	\$5,000
9	“	4,500
15	“	4,000
20	“	3,600 and less.
Average		3,980

38 Assistant Professors :

9	receive	\$3,000
25	“	2,000
4	“	1,600
Average		2,130

88 Instructors :

1	receives	\$2,000
29	receive	1,750 — \$1,100
33	“	1,000
25	“	925 and less.
Average		990

These with the assistants, lecturers, tutors, etc., make a staff of 279 teachers. Total salaries, \$437,821. Average, \$1,570.

In these days of increasing cost of living and of higher salaries in commercial and industrial pursuits, the Alumni and friends of Harvard will not allow the men who teach their boys and who fill the chairs of the great teachers of the past to receive these meagre wages.

The time has now come when the sons of Harvard may rally to her help and in grateful love make her the gift of an endowment of at least \$2,500,000, to increase the present totally inadequate amount available for the salaries of the teaching staff of the College.

During the past few months a number of the Alumni and friends of the College have subscribed individually or through their classes, \$1,800,000. *No response to this letter is of course expected from them.*

We believe that every son of Harvard wishes the privilege of taking part in this great gift. We therefore send this letter to all the living graduates.



Such a sum cannot be raised without large subscriptions from those who can afford even at a sacrifice to make them.

Our most earnest hope is, however, that before next Commencement Day *every Alumnus will send some subscription, however small*, and thus make this gift to the College a token of affection from every living son of Harvard.

WILLIAM LAWRENCE, *Chairman*.

FRANCIS L. HIGGINSON, *Vice-Chairman*.

CHARLES S. FAIRCHILD.

HENRY S. HOWE.

FRANCIS R. APPLETON.

AUGUSTUS HEMENWAY.

ROBERT BACON.

THEODORE ROOSEVELT.

JAMES J. STORROW.

BENJAMIN CARPENTER.

CAMBRIDGE, May 18, 1905.

[*Translation.*]

# AGREEMENT BETWEEN THE UNIVERSITY OF BERLIN AND HARVARD UNIVERSITY CONCERNING THE MUTUAL EXCHANGE OF TEACHERS.

1. The University of Berlin binds itself to secure annually a leave of absence for one or two of its professors to the end that they may take part, for a period of three months each (or for whatever other period may seem more suitable to you), in the instruction at Harvard University, after the manner that seems there appropriate.

2. Harvard University assumes the same obligation towards the University of Berlin.

3. The choice of the professors is made in accordance with a mutual understanding between the President of Harvard University and the Rector of the University of Berlin.

4. The times of year especially suited appear to be (*a*) for Harvard University, the months of October to December, or January to March (or whatever other periods may seem more suitable to you), (*b*) for the University of Berlin, the months of November to January, or May to July.

5. The professors of the University of Berlin who are sent to Harvard University receive from the latter for travelling and living expenses a compensation of \$1200 each; the professors of Harvard University, the same amount from the University of Berlin. In this arrangement it is assumed that the regular salary of the professors is continued.

**AGE OF STUDENTS WHO ENTERED THE FRESHMAN CLASS OF HARVARD COLLEGE 1876 — 1905 INCLUSIVE.**

Year	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29	29-30	30-31	31-35	35-46	Average Age.		No. adm.
																				18 yrs.	9 mos.	
1876		1	12	58	60	53	20	7	2	2	1		1							18	9 3/4	217
1877		2	16	52	80	53	23	9	6	3	1									18	"	245
1878		2	14	52	78	45	22	7	9		1									18	9 1/4	230
1879		1	16	49	86	53	19	15	4	1	1			1						18	"	248
1880		1	12	52	84	53	24	9	3	4	1			1						18	11 1/3	247
1881		3	10	38	73	55	31	10	8	1	1									19	"	230
1882	1	3	11	58	89	60	28	12	4	5	1							1		19	"	275
1883			17	65	100	61	23	7	7	2	2									18	9 1/2	285
1884	1		12	63	90	72	29	8	4	1	5									18	10 3/8	286
1885	2		10	63	89	56	40	6	4	4	1							1		19	1 1/4	281
1886		4	14	64	116	67	29	12	3	3	2			2						18	11 1/2	321
1887			8	71	108	87	26	7	12	2	2			1				1		19	2 1/8	333
1888		2	11	58	123	68	42	19	8	5	4			3						19	3 1/4	352
1889		1	14	68	124	96	32	12	5	9	9			4				1		19	7 1/2	388
1890	1	2	14	64	129	102	37	26	6	9	10			1						19	4 1/8	408
1891		2	24	82	141	97	40	17	13	7	7			1						19	2 1/8	441
1892		2	19	88	155	120	56	20	12	4	3			1						19	0 1/4	487
1893		2	7	100	162	102	47	20	7	7	6			1						19	1 1/8	467
1894	1	3	13	85	142	128	44	20	9	9	5			1				1		19	2 1/4	465
1895		3	20	99	185	111	42	19	13	7	7			1						19	0 3/8	517
1896	1	1	24	99	155	109	35	18	12	7	7			3				1		19	1 1/8	481
1897		1	27	120	181	121	51	28	17	6	9			3						19	1 3/8	571
1898		3	16	107	185	111	45	15	13	7	3			2				1		19	1 3/8	520
1899		1	27	111	188	126	32	24	15	13	3			2				2		19	1 3/8	554
1900		2	25	114	199	134	68	20	10	8	8			1				2		19	4	605
1901		1	27	118	176	130	64	26	12	4	5			3				1		19	2 1/4	578
1902		3	24	128	229	143	71	21	12	2	3			2						18	11 1/8	648
1903			28	116	196	119	64	16	6	8	3			1				1		18	11	563
1904		5	18	117	200	123	42	15	8	6	9			1						18	10 1/8	549
1905		1	20	102	165	108	29	11	5					1						18	9 1/4	444

\* On the assumption that all who ever joined each class were admitted as Freshmen.

GENERAL REGULATIONS FOR THE ADMINISTRATION OF  
THE NELSON ROBINSON JR. TRAVELLING FELLOWSHIP  
IN ARCHITECTURE, AND THE JULIA AMORY APPLETON  
FELLOWSHIP IN ARCHITECTURE.

These fellowships will ordinarily be offered for competition in alternate years, and the holders will on application be reappointed for a second year when they have done creditable work during the first year.

They are open for competition to Bachelors of Science in Architecture of Harvard University who have taken the degree *with distinction* or who have completed with distinction a year of graduate study in Architecture at the University.

The selection among those admitted to candidacy will be made on the results of a competitive examination in the history of architecture and in design, to be held in Cambridge in the month of April of each year.

In the history of architecture each candidate will be examined on a special period, to be selected by him in advance. Candidates must send notice of their choice of a period to the Professor of Architecture at least thirty days before the time set for the examination.

In the examination in design candidates will be required to present themselves at a specified time and place, where a problem will be proposed to them, and they will have eight hours for the preparation of preliminary sketches. These will be retained by the Department of Architecture for comparison with the final drawings. During the making of the preliminary sketches candidates will be under the supervision of an instructor of the Department. No persons other than the candidates, and officers of the University, will be permitted in the examination room during an examination. Candidates will be given three weeks in which to prepare the final drawings, and will be required to present with them a written statement that they have been prepared without aid, direct or indirect, from other persons. The facilities of the Department will be free to candidates during the time of preparation of the final drawings.

Applications must be sent to the Chairman of the Committee on Fellowships and Other Aids for Graduate Students before the first day of March of the year in which the candidates expect to present themselves for examination.

The candidate who receives the Fellowship will be required to spend at least one year in travel and study in Europe under the general direction of the Professor of Architecture. He will be required to submit monthly reports of his progress, and to send at the end of each half-year a measured drawing of some monument of architecture which must be approved by the Department. He will also be required to make, during his stay in Europe, a special study of a single building or group of buildings, and on his return must present a written essay illustrated by drawings, embodying the results of this study.

The award will be made on the nomination of the Department of Architecture acting in coöperation with a committee of practising architects invited by the Department of Architecture, with the approval of the President of the University, to assist in the award.

### THE FUND OF THE CLASS OF 1846.

Boston, March 30, 1905.

TO THE PRESIDENT AND FELLOWS OF HARVARD COLLEGE: —

GENTLEMEN, — The Class of 1846 desires to transfer to you its Class Fund, amounting to ten thousand five hundred and seventy one and seven one hundredths dollars (\$10,571.07), to be held as the property of Harvard College on the following terms: —

*First.* — A separate account shall be kept by the Treasurer of the College with "The Fund of the Class of 1846," which account shall be credited with the sum above named and with such other sums as may be added thereto from time to time by said Class, or by any other person, in amounts of not less than one hundred dollars. Upon the death of the last surviving member of said Class the above named account shall be closed, and the amount then credited thereto, including accumulated income, shall be transferred and added to the amount then belonging to the Francis James Child Memorial Fund now held by the said College as part thereof thenceforth.

*Second.* — Until said account shall be closed as above provided, the amount standing to the credit of its capital account shall be invested at the discretion of the President and Fellows and share with other funds in the "General Investments" of the College.

*Third.* — The income received for the Fund of the Class of 1846 shall be credited annually to the account of said Fund, and the amount of income so credited shall be payable on demand to the Secretary of the Class, whose receipt therefor shall be full discharge to the President and Fellows for all sums paid to him. The Class Secretary shall not call for money oftener than once a year unless with the consent of the Treasurer of the College. All income not so called for within the fiscal year of the College following the date of its credit to the Class, shall be credited to, and become a part of, the principal of said Fund at the end of such year.

If at any time there shall be no Secretary of the Class of 1846, the Treasurer may in his discretion pay the income to any member or members of the Class of 1846, whose receipt therefor shall be a full discharge to the President and Fellows, who shall have no responsibility for the application of the money.

(Signed)

WM. S. DEXTER,  
*Surviving Trustee of the Class  
Fund of 1846.*



TABLE II.

ILLNESS REPORT AS RELATED TO THE DIFFERENT SCHOOLS.

Diseases.	College.					Scientific.					Law.	Graduate.	Divinity.	Totals.
	1	2	3	4	Sp.	1	2	3	4	Sp.				
Appendicitis . . . . .	3	9	5	7	..	1	..	1	1	..	3	1	1	32
Asthma . . . . .	..	2	4	1	..	..	..	..	..	1	..	..	..	8
Bronchitis . . . . .	16	19	16	10	3	..	2	1	..	..	1	..	..	68
Chicken-pox . . . . .	1	6	2	1	..	..	..	..	..	..	..	..	..	10
Colds, unclassified .	133	141	77	53	27	8	7	8	8	12	2	1	..	477
Constipation . . . . .	3	4	1	..	..	..	..	..	1	..	..	..	..	9
Coryza . . . . .	22	31	13	7	7	3	1	2	1	2	..	..	..	89
Diarrhoea . . . . .	21	34	15	11	6	1	1	3	4	1	..	..	..	97
Diphtheria . . . . .	2	1	1	3	1	..	..	1	1	..	1	..	..	11
Ear, of the . . . . .	11	14	6	..	..	..	..	..	..	1	..	..	..	32
Eye, of the . . . . .	80	87	53	25	9	7	5	6	2	4	..	..	..	278
General Debility . .	19	22	15	13	..	..	3	2	2	2	4	5	..	87
Headache . . . . .	39	38	26	12	6	2	..	3	1	1	..	..	..	128
Indigestion . . . . .	75	86	78	39	22	6	4	10	4	3	2	6	..	335
Insomnia . . . . .	..	11	5	2	..	..	..	2	2	..	1	..	..	23
Jaundice . . . . .	5	2	4	1	1	..	..	..	..	..	..	1	..	14
La Grippe . . . . .	71	108	59	26	9	3	10	3	2	7	3	2	..	303
Laryngitis . . . . .	3	10	..	1	..	1	..	..	1	..	..	..	..	16
Malaria . . . . .	3	14	4	4	2	..	1	..	..	..	1	..	..	29
Measles . . . . .	6	5	1	2	2	..	..	..	3	..	1	..	..	20
Miscellaneous . . . .	84	64	61	27	12	3	4	..	4	4	5	2	..	270
Mumps . . . . .	10	4	2	2	2	1	1	..	..	..	1	1	..	24
Neuralgia . . . . .	10	6	9	6	2	2	1	..	..	1	..	1	..	38
Pharyngitis . . . . .	36	45	27	7	5	1	6	4	6	5	2	..	..	144
Pneumonia . . . . .	..	1	..	1	1	..	1	..	..	..	1	..	..	5
Rheumatism . . . . .	6	12	2	4	2	..	..	..	..	3	..	1	..	30
Skin, of the . . . . .	7	6	5	5	..	1	7	1	1	..	2	5	..	40
Surgical . . . . .	86	84	63	44	8	13	8	9	4	5	4	4	..	332
Teeth, of the . . . .	16	18	11	4	3	1	..	2	..	..	1	..	..	56
Tonsillitis . . . . .	43	40	33	22	6	3	2	2	1	5	3	1	..	161
Typhoid . . . . .	2	3	1	2	..	..	..	..	..	..	1	1	..	10
Totals . . . . .	813	927	608	342	136	57	64	60	49	57	39	32	1	3176
No. of Students . .	545	610	442	265	147	105	138	66	92	128	758	349	43	
% of "Sign-offs" .	149	152	138	126	92	54	46	92	53	45	5	9	2	

STILLMAN INFIRMARY

LIST OF CASES, 1904-05

Adenitis . . . . .	2	Measles . . . . .	8
Abscess Tonsillar . . . . .	5	Miscellaneous Medical . . . . .	31
Appendicitis . . . . .	22	"    Surgical . . . . .	27
Bronchitis . . . . .	14	Mitral Stenosis . . . . .	1
Carbuncle . . . . .	1	Mumps . . . . .	6
Chicken-pox . . . . .	3	Otitis Media . . . . .	3
Colds . . . . .	12	Pharyngitis . . . . .	10
Concussion — cerebral . . . . .	3	Pleuritis with effusion . . . . .	3
Conjunctivitis infectious . . . . .	2	Pneumonia . . . . .	3
Cystitis . . . . .	1	Rheumatism . . . . .	7
Debility . . . . .	6	Septicaemia . . . . .	1
Diphtheria . . . . .	5	Septic elbow . . . . .	1
Endocarditis . . . . .	3	"    foot . . . . .	6
Fracture — Colles . . . . .	1	"    hand . . . . .	2
"    of jaw . . . . .	1	"    leg . . . . .	2
"    of metatarsus . . . . .	2	Sprain of ankle . . . . .	2
"    of skull and sternum . . . . .	1	"    ankle and knee . . . . .	1
Gastritis . . . . .	3	"    foot . . . . .	1
Gastric ulcer . . . . .	1	Synovitis of knee . . . . .	6
Herpes Zoster . . . . .	1	Tonsillitis . . . . .	26
Insomnia . . . . .	2	Typhoid Fever . . . . .	5
Jaundice . . . . .	8	Warts on foot, operations for . . . . .	17
La Grippe . . . . .	95	No diagnosis . . . . .	9
Laryngitis . . . . .	3		
Malaria . . . . .	2	Total . . . . .	377

Room patients . . . . .	113
Ward patients . . . . .	264
Total . . . . .	377

Discharged — well . . . . .	254
"    relieved . . . . .	117
"    not relieved . . . . .	2
Died . . . . .	4
Total . . . . .	377

Total number of hospital days . . . . .	2631
Daily average . . . . .	9.63

REPORT OF THE SECRETARY FOR APPOINTMENTS.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR, — I have the honor to submit to you a report of the work of the Appointments Office for the year ending October 1, 1905.

There are now registered with the Office 3,150 persons against 2,419 at the end of the year 1904, — an increase of 631. During the year 1904–05, as heretofore, there have been more calls on the University for teachers than for men to fill business or technical positions. So far as reported to the Office, there have been 734 calls for teachers, 561 of which came direct from schools, colleges, or universities, and 173 through teachers' agencies. There have been 182 calls from business houses. The total demand for men to fill permanent positions has been 916. The total demand for men to do temporary work has been 985. The total demand for men to do permanent and temporary work has been 1901.

The following tables show the number of permanent positions filled, report of which has been made to the Office. Of these there were 245.

PERMANENT TEACHING POSITIONS.

Universities or Colleges . . . . .	73	Public High Schools . . . . .	22
Technical Schools . . . . .	6	Government School (Japan) . . .	1
Normal Schools . . . . .	2	George Junior Republic . . . . .	1
Military Academies . . . . .	3	Tutors or Companions for one year	20
Private Schools, Endowed Schools, Academies, Seminaries . . . . .	45	Tutors for Schools for one year .	3
		Total . . . . .	176

ADMINISTRATIVE POSITIONS (EDUCATIONAL).

Superintendents of Schools . . . . .	2
Head-masters or Principals . . . . .	10
Sub-master . . . . .	1
Total . . . . .	13

BUSINESS POSITIONS.

Banking houses . . . . .	9	Secretaries . . . . .	3
Manufacturing concerns . . . . .	5	Telephone Companies . . . . .	2
Importer (coffee, spices, etc.) . .	1	Total . . . . .	21
Railroad Company . . . . .	1		

BUSINESS POSITIONS (TECHNICAL).

*Secured by the Departments direct.*

Astronomical Laboratory . . . . .	1	Electricians . . . . .	15
Bureau Plant Industry . . . . .	1	Mining Engineers and Metallurgists	10
Chemists . . . . .	8	Total . . . . .	35
		Total permanent positions . . . .	245



TEMPORARY.

Advertisement Writer . . . . .	1	Musicians . . . . .	3
Agents . . . . .	5	News Editor . . . . .	1
Athletic Coaches . . . . .	2	Night School Teachers . . . . .	14
Attendants . . . . .	5	Outing Class Directors . . . . .	3
Book-keeper . . . . .	1	Proctors (special) . . . . .	76
Caretaker . . . . .	1	Public Speaker . . . . .	1
Chair-canon . . . . .	1	Readers . . . . .	8
Chemist . . . . .	1	Rooms in exchange for Services . . . . .	6
Choremen . . . . .	39	Settlement Workers . . . . .	8
Clerks . . . . .	153	Snow Shovellers . . . . .	5
Collectors . . . . .	73	Stenographers . . . . .	18
Electric Railroad Employees . . . . .	2	Stereopticon Operators . . . . .	2
Elevator Man . . . . .	1	Store Clerks . . . . .	27
Farm Hands . . . . .	12	Summer Camp . . . . .	6
Furnace Tenders . . . . .	6	Supervisors of Study . . . . .	14
Gas Meter Readers . . . . .	21	Ticket Takers . . . . .	53
Guards . . . . .	32	Translators . . . . .	5
Guides . . . . .	52	Tutors in Special Subjects . . . . .	131
Hotel Help . . . . .	12	Tutors or Companions . . . . .	40
Janitor . . . . .	1	Typewriters . . . . .	9
Lecturers . . . . .	2	Waiters . . . . .	5
Library Attendant . . . . .	1	Total . . . . .	873
Library Research Worker . . . . .	1		
Messengers . . . . .	12	Total permanent and temporary	
Mining Assistant . . . . .	1	positions . . . . .	1118

This table shows the demands on various Departments of the University for teachers in single subjects : —

Classics . . . . .	26	Psychology . . . . .	2
Sanskrit . . . . .	1	Philosophy . . . . .	2
English . . . . .	20	Education . . . . .	1
French . . . . .	3	Mathematics . . . . .	13
German . . . . .	4	Engineering . . . . .	2
Spanish . . . . .	1	Physics . . . . .	2
Modern Languages . . . . .	5	Chemistry . . . . .	9
Romance Languages . . . . .	10	Biology . . . . .	3
History . . . . .	12	Geology . . . . .	4
Economics . . . . .	3	Total . . . . .	123
Law . . . . .	1		

This table shows the number of men supplied to teach combined subjects :

Latin, English, History . . . . .	1	Logic, Psychology . . . . .	1
Latin, German . . . . .	1	Psychology, Education . . . . .	1
Latin, Science, Athletics . . . . .	1	Mathematics, English, History . . . . .	1
English, Athletics . . . . .	1	Science, Mathematics . . . . .	2
English, Classics . . . . .	1	Science, Mathematics, Latin . . . . .	1
English, French, German, Mathe- matics . . . . .	1	General Science . . . . .	4
English, French, History, Algebra . . . . .	1	Physics, Chemistry, Athletics . . . . .	1
English, History . . . . .	1	Chemistry, Physics . . . . .	2
German, English (Debate), House Proctor . . . . .	1	General Teachers . . . . .	8
		Total . . . . .	30

	Universities or Colleges.	Technical Schools.	Normal Schools.	Military Academies.	Priv. or Endowed Schools, Academies, Seminaries.	Public Schools.	Government Schools.	George Junior Republic.	Tutors or Companions for 1 year.	Tutors for Schools.	Superintendent.	Head master or Principal.	Sub-principal.	Business.	Business — Technical.	Totals for States.
<b>NORTH ATLANTIC DIVISION:</b>																
Maine . . . . .	2	..	..	..	1	1	..	..	..	..	..	2	..	..	..	6
New Hampshire . . . .	1	..	..	1	5	..	..	..	1	..	..	2	..	..	..	10
Vermont . . . . .	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Massachusetts . . . . .	10	..	..	1	10	10	..	..	5	3	1	2	..	14	6	62
Rhode Island . . . . .	1	..	..	..	3	..	..	..	..	..	..	..	..	..	1	5
Connecticut . . . . .	1	..	..	..	8	..	..	..	..	..	..	2	1	..	..	12
New York . . . . .	6	1	..	..	6	1	..	1	3	..	..	..	..	5	9	32
New Jersey . . . . .	5	..	..	..	1	1	..	..	1	..	..	..	..	..	2	10
Pennsylvania . . . . .	6	..	1	1	4	3	..	..	..	..	..	..	..	..	2	19
<b>SOUTH ATLANTIC DIVISION:</b>																
Maryland . . . . .	..	..	..	..	1	..	..	..	..	..	..	1	..	..	1	3
District of Columbia . .	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1	3
North Carolina . . . . .	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Georgia . . . . .	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	2
<b>NORTH CENTRAL DIVISION:</b>																
Ohio . . . . .	9	2	..	..	1	..	..	..	..	..	..	..	..	..	2	14
Indiana . . . . .	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Illinois . . . . .	4	2	..	..	..	..	..	..	..	..	1	1	..	..	..	8
Michigan . . . . .	1	..	..	..	..	..	..	..	..	..	..	..	..	..	3	4
Wisconsin . . . . .	4	..	..	..	..	1	..	..	..	..	..	..	..	..	..	5
Minnesota . . . . .	..	1	..	..	..	1	..	..	1	..	..	..	..	..	..	3
Missouri . . . . .	2	..	..	..	..	2	..	..	..	..	..	..	..	..	3	7
North Dakota . . . . .	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
South Dakota . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2
Nebraska . . . . .	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Kansas . . . . .	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
<b>SOUTH CENTRAL DIVISION:</b>																
Kentucky . . . . .	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	2
Alabama . . . . .	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Louisiana . . . . .	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
<b>WESTERN DIVISION:</b>																
Montana . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2
Colorado . . . . .	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1
Arizona . . . . .	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1
Utah . . . . .	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2	3
Washington . . . . .	3	..	..	..	1	..	..	..	..	..	..	..	..	..	..	4
California . . . . .	4	..	..	..	1	..	..	..	..	..	..	..	..	..	..	5
<b>PHILIPPINE ISLANDS . . .</b>																
CUBA . . . . .	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	1
EUROPE (or general travel)	..	..	..	..	..	..	..	..	5	..	..	..	..	1	..	6
JAPAN . . . . .	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1
Total positions . . . . .	73	6	2	3	45	22	1	1	20	3	2	10	1	21	35	

The preceding table shows the geographical distribution of the permanent teaching, educational, and business positions filled.

The salaries of 199 of the 245 permanent positions aggregate \$232,349. These are divided as follows : —

	Salaries.	Number of positions.
Colleges and Universities . . . . .	\$72,730	65
Secondary Schools . . . . .	93,260	84
Tutoring (approximately) . . . . .	42,200	21
Business . . . . .	24,159	29
Total . . . . .	<u>\$232,349</u>	<u>199</u>

An approximate estimate of the salaries of the 46 persons who did not make report to the Office is \$35,000.

The foregoing tables show the positions secured through the coöperation of the Departments of the University with the Appointments Office. The increase this year over last, both in the number of permanent and temporary positions filled, is accounted for in two ways : first, by the fact that it has been possible to keep better records than heretofore of the positions secured ; and secondly, by the fact that as the work of the Appointments Office becomes better known, the opportunities naturally increase.

HENRY S. THOMPSON,  
*Secretary for Appointments.*

PUBLICATIONS OF THE MUSEUM OF COMPARATIVE  
ZOÖLOGY FOR THE ACADEMIC YEAR 1904–05.

Bulletin : —

Vol. XLII.

No. 6. The Sand Plains of Glacial Lake Sudbury. By JAMES WALTER GOLDTHWART. 41 pp. 5 Plates. May, 1905.

Vol. XLIII.

No. 2. Reports on the Dredging Operations off the West Coast of Central America to the Galapagos, to the West Coast of Mexico, and in the Gulf of California, in Charge of Alexander Agassiz, carried on by the U. S. Fish Commission Steamer “Albatross,” during 1891, Lieut. Commander Z. L. Tanner, U. S. N., Commanding. XXXIII. Stein- und Hydro-Korallen. Von EMIL VON MARENZELLER. 16 pp. 3 Plates. August, 1904.

No. 3. Reports on the Dredging Operations off the West Coast of Central America to the Galapagos, to the West Coast of Mexico, and in the Gulf of California, in Charge of Alexander Agassiz, carried on by the U. S. Fish Commission Steamer “Albatross,” during 1891, Lieut. Commander Z. L. Tanner, U. S. N., Commanding. XXXIV. *Lagisca*

*irritans*, sp. nov., ein Symbiont von Hydrokorallen. Von EMIL VON MARENZELLER. 6 pp. 1 Plate. August, 1904.

Vol. XLV.

No. 4. Contributions from the Zoölogical Laboratory. No. 157. The Maturation, Fertilization, and Early Cleavage of *Haminea solitaria* (Say). By W. M. SMALLWOOD. 60 pp. 13 Plates. December, 1904.

Vol. XLVI.

No. 2. Maldive Cephalochordates, with the Description of a New Species from Florida. By G. H. PARKER. 16 pp. 2 Plates. November, 1904.

No. 3. Batrachia and Reptilia from the Bahamas. By THOMAS BARBOUR. 10 pp. December, 1904.

No. 4. Three Letters from Alexander Agassiz to the Hon. George M. Bowers, United States Fish Commissioner, on the Cruise, in the Eastern Pacific, of the U. S. Fish Commission Steamer "Albatross," Lieut. Commander L. M. Garrett, U. S. N., Commanding. 22 pp. April, 1905.

No. 5. The Vertebrata of Gorgona Island, Colombia. By OUTRAM BANGS, THOMAS BARBOUR, WILMOT W. BROWN, Jr., and JOHN E. THAYER. 18 pp. June, 1905.

No. 6. Reports on the Scientific Results of the Expedition to the Eastern Tropical Pacific, in Charge of Alexander Agassiz, by the U. S. Fish Commission Steamer "Albatross," from October, 1904, to March, 1905, Lieut. Commander L. M. Garrett, U. S. N., Commanding. II. Description of a New Genus of Isopods, Typical of a Peculiar Family. By HARRIET RICHARDSON. 4 pp. 1 Plate. July, 1905.

Vol. XLVII.

Nemerteans of the West and Northwest Coasts of America. By WESLEY R. COE. 318 pp. 25 Plates. March, 1905.

Memoirs : —

Vol. XXV.

No. 2. *Cleiocrinus*. By FRANK SPRINGER. 24 pp. 1 Plate. January, 1905.

Vol. XXXI.

Reports on an Exploration off the West Coasts of Mexico, Central and South America, and off the Galapagos Islands, in Charge of Alexander Agassiz, by the U. S. Fish Commission Steamer "Albatross," during 1891, Lieut. Commander Z. L. Tanner, U. S. N., Commanding. XXXII. The Panamic Deep Sea Echini. By ALEXANDER AGASSIZ. 10, 243 pp. 112 Plates. November, 1904.

Vol. XXXII.

Reports on an Exploration off the West Coasts of Mexico, Central and South America, and off the Galapagos Islands, in Charge of Alexander Agassiz, by the U. S. Fish Commission Steamer "Albatross," during

1891, Lieut. Commander Z. L. Tanner, U. S. N., Commanding. XXXV. Reports on the Scientific Results of the Expedition to the Tropical Pacific, in Charge of Alexander Agassiz, on the U. S. Fish Commission Steamer "Albatross," from August, 1899, to March, 1900, Commander Jefferson F. Moser, U. S. N., Commanding. VII. Asteroidea. By HUBERT LUDWIG. 12, 292 pp. 36 Plates. July, 1905.

Report : —  
1903-04. 35 pp. December, 1905.

ORDINARY DEGREES CONFERRED, 1901-05.

	1901.	1902.	1903.	1904.	1905.
Bachelors of Arts . . . . .	457	422	511	459	427
Bachelors of Arts out of course . . . . .	26	32	42	38	44
Bachelors of Science . . . . .	75	76	101	77	91
Bachelors of Science out of course . . . . .	4	7	5	7	16
Bachelors of Divinity . . . . .	2	5	4	7	7
Bachelors of Divinity out of course . . . . .	0	1	1	1	0
Bachelors of Laws . . . . .	136	146	157	169	170
Bachelors of Laws out of course . . . . .	9	16	6	13	13
Bachelors of Agricultural Science . . . . .	2	5	6	8	1
Doctors of Medicine . . . . .	116	130	109	131	82
Doctors of Medicine out of course . . . . .	4	1	3	4	2
Doctors of Dental Medicine . . . . .	29	32	27	25	32
Doctors of Veterinary Medicine . . . . .	6	0	0	0	0
Doctors of Veterinary Medicine out of course . . . . .	1	1	0	0	0
Masters of Arts . . . . .	119	110	117	157	131
Masters of Arts out of course . . . . .	6	10	8	5	12
Masters of Science . . . . .	7	8	6	2	4
Masters of Science out of course . . . . .	3	0	1	0	1
Doctors of Philosophy . . . . .	29	28	28	46	39
Doctors of Science . . . . .	0	3	1	1	0
Metallurgical Engineer . . . . .	0	0	0	0	1
Totals . . . . .	1031	1033	1133	1145	1073

**Table of Schools and Colleges from which young men actually entered Harvard College from 1896 to 1905 inclusive, with the number that entered from each institution in each year. Special students are not included. An asterisk (\*) indicates a public school, a dagger (†) a school known to be endowed.**

SCHOOL OR COLLEGE.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
*Abington High School . . . . .	.	.	.	.	.	.	2	.	1	.
†Academy of the Univ. of Chicago, Morgan Park, Ill.	.	2	.	1	.	1	.	.	1	.
Acadia College, Wolfville, N. S. . . . .	2	3	.	1	2	1	1	.	2	1
†Adams Academy, Quincy . . . . .	6	1	3	.	1	1	1	3	1	2
*Adams High School . . . . .	.	.	1	.	.	.	.	.	.	.
†Adelphi Academy, Brooklyn, N. Y. . . . .	.	.	1	.	2	1	.	.	.	.
Adirondack-Florida School, N. Y. and Fla. . . . .	.	.	.	.	.	.	.	.	.	1
*Afton, N. Y., High School . . . . .	.	.	.	.	.	.	1	.	.	.
Agricultural College of Utah, Logan, Utah . . . . .	.	.	.	.	.	.	.	1	.	.
Alabama Polytechnic Institute, Auburn, Ala. . . . .	.	.	.	.	.	.	.	1	.	.
†Albany Academy, Albany, N. Y. . . . .	1	1	1	4	.	1	1	.	.	.
*Albany, N. Y., High School . . . . .	.	.	.	.	1	1	1	2	.	.
Albion College, Albion, Mich. . . . .	.	.	.	.	.	1	1	.	.	.
Allen School, New York, N. Y. . . . .	.	.	.	.	.	.	.	.	1	1
Allen School, West Newton . . . . .	.	.	.	.	.	2	1	1	3	1
†A. M. Chesbrough Seminary, No. Chili, N. Y. . . . .	.	.	.	.	.	.	1	.	.	.
*Amesbury High School . . . . .	.	.	.	1	.	.	1	.	.	.
Amherst College, Amherst . . . . .	.	1	2	3	.	.	3	.	.	.
Anglo-American College, Paris, France . . . . .	.	.	.	.	1	1	.	.	.	.
†Appleton Academy, New Ipswich, N. H. . . . .	.	.	.	.	1	.	.	.	.	.
*Arlington High School . . . . .	1	2	2	1	1	1	1	1	3	3
*Ashbourne, Pa., Cheltenham High School . . . . .	.	.	.	.	.	.	.	1	.	.
Asheville School, Asheville, N. C. . . . .	.	.	.	.	.	.	.	1	.	.
*Athol High School . . . . .	.	.	.	.	.	.	.	1	.	.
*Atlantic City, N. J., High School . . . . .	.	.	.	.	.	.	.	.	.	1
*Auburn, Me., Edward Little High School . . . . .	.	1	1	.	.	.	.	.	.	.
*Auburn, N. Y., Academic High School . . . . .	.	.	.	.	2	.	.	1	.	.
*Augusta, Me., Cony High School . . . . .	.	.	.	.	1	.	1	.	.	.
Augustana College, Rock Island, Ill. . . . .	.	.	.	1	.	.	.	.	.	.
*Ayer High School . . . . .	.	.	.	.	.	.	.	.	.	1
Ballou & Hobigand School, Boston . . . . .	.	.	.	.	.	.	.	.	.	1
Baltimore, Md., Boys' Latin . . . . .	.	.	.	.	1	.	.	1	.	.
*Bangor, Me., High School . . . . .	.	1	.	.	.	.	1	.	.	.
Barnard School, New York, N. Y. . . . .	.	.	.	.	.	.	1	.	.	.
Barnard School, St. Paul, Minn. . . . .	.	.	.	.	1	.	.	.	.	.
*Barre High School . . . . .	.	1	.	.	1	.	.	.	.	.
Bates College, Lewiston, Me. . . . .	.	.	2	1	1	.	1	1	1	.
Baylor's University School, Chattanooga, Tenn. . . . .	.	.	.	.	.	1	.	.	.	.
*Beaver, Pa., High School . . . . .	.	.	.	1	.	.	.	.	.	.
*Belfast, Me., High School . . . . .	.	.	.	.	.	1	.	.	.	.
*Belmont High School . . . . .	2	1	.	.	.	1	2	1	1	.
Belmont School, Belmont, Cal. . . . .	1	1	2	.	1	6	1	.	1	1
Belmont School, Belmont . . . . .	3	4	1	1	.	.	.	.	.	.
Beloit College, Beloit, Wis. . . . .	.	.	1	.	.	.	1	.	.	.
Berea College, Berea, Ky. . . . .	.	.	.	.	.	1	.	.	.	.
Berkeley School, Boston . . . . .	1	.	.	.	.	.	.	.	.	.
Berkeley School, New York, N. Y. . . . .	.	.	1	.	1	1	3	2	.	.

SCHOOL OR COLLEGE.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Berkeley School, Poughkeepsie, N. Y. . . . .	1									
Berwick Academy, South Berwick, Me. . . . .			2				1			
Bethany College, Lindsborg, Kan. . . . .						1				
Betts Academy, Stamford, Conn. . . . .					1				2	
*Beverly High School . . . . .					1	1	1		1	1
*Biddeford, Me., High School . . . . .							1			
*Binghamton, N. Y., Central High School . . . . .										1
*Bismarck, N. D., High School . . . . .							1			
Blake School, New York, N. Y. . . . .	1		3				2			
Bleas Military Academy, Macon, Mo. . . . .										1
Blinn Memorial College, Brenham, Tex. . . . .					1					
*Bloomington, Ill., High School . . . . .							2			
Bordentown Military Institute, Bordentown, N. J. . . . .									1	
Boston College, Boston . . . . .		1			1		1			
*Boston English High School . . . . .	3	3	4	2	4	3	3	10	3	3
*Boston Latin School . . . . .	21	39	36	35	38	31	32	28	27	29
Boston University, Boston . . . . .			1	1	3	1				
*Bourne High School . . . . .							1			
Bowdoin College, Brunswick, Me. . . . .				2	1					
†Bradley Polytechnic School, Peoria, Ill. . . . .								1		
Bradstreet School, Rochester, N. Y. . . . .			1	1	1	1		1		
†Brewster Free Academy, Wolfboro, N. H. . . . .			1			3	1			1
*Bridgewater High School . . . . .	1				6	2	1	1	2	
*Bridgewater State Normal School . . . . .				1		1				
Bridgton Academy, Bridgton, Me. . . . .				1						
†Brigham Academy, Bakersfield, Vt. . . . .										1
†Bristol Academy, Taunton . . . . .		1								1
*Brockport, N. Y., State Normal School . . . . .	1						1			
*Brockton High School . . . . .			1	1	1					1
*Brookfield High School . . . . .									1	
*Brookline High School . . . . .	5	6	2	3	3	4	3	3	3	6
*Brooklyn, N. Y., Boys' High School . . . . .	4	1	2	3	3	1	1	4	3	
*Brooklyn, N. Y., Erasmus Hall High School . . . . .						1				
Brooklyn, N. Y., Latin School . . . . .		1							1	
†Brooklyn, N. Y., Pratt Institute High School . . . . .					1		4			
Brooklyn Polytechnic Institute, Brooklyn, N. Y. . . . .		1		3						
Brooklyn Poly. Prep. School, Brooklyn, N. Y. . . . .	3	1	2	1	1	2	1	1	4	
Brown University, Providence, R. I. . . . .	1	1			1	1	2			2
Browne & Nichols Private School, Cambridge . . . . .	4	7	5	12	6	10	9	14	8	3
Browning School, New York, N. Y. . . . .						3	1	2	1	
*Brushton, N. Y., High School . . . . .									1	
Bucknell University, Lewisburg, Pa. . . . .				2			1		2	
*Buffalo, N. Y., Central High School . . . . .	2	1	3	1		2	3		2	3
*Buffalo, N. Y., Lafayette High School . . . . .										1
*Buffalo, N. Y., Masten Park High School . . . . .						2		1	3	1
*Calais, Me., High School . . . . .				1						
*Cambridge Latin School . . . . .	16	20	16	14	21	24	20	21	17	21
*Cape Vincent, N. Y., High School . . . . .					1					
Cardwell's School, Paris, France . . . . .	1									
Carleton School, Bradford . . . . .	1									
Carrollton Preparatory School, Charlestown . . . . .								1		
Carteret Academy, Orange, N. J. . . . .									1	
Carteret School, Short Hills, N. Y. . . . .				1						
*Carthage, N. Y., High School . . . . .						1				
*Cedar Rapids, Iowa, High School . . . . .								1		
Centenary Collegiate Inst., Hackettstown, N. Y. . . . .									2	
Centre College, Danville, Ky. . . . .		1								
*Charlestown High School . . . . .						1				

SCHOOL OR COLLEGE.	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
Chateau de Lancy, Geneva, Switzerland . . . . .		1								
Chauncy Hall School, Boston . . . . .	2	3	2	1			1			
*Chelsea High School . . . . .	4	3	3	3	2	2	4	4	■	3
Chestnut Hill Academy, Chestnut Hill, Pa. . . . .								1		1
*Chicago, Ill., Englewood High School . . . . .		1				1				
*Chicago, Ill., John Marshall High School . . . . .						1				
*Chicago, Ill., Lake View High School . . . . .									2	
Chicago, Ill., Latin School . . . . .				2	2		5	2		3
*Chicago, Ill., North Division High School . . . . .					1					
*Chicago, Ill., North West Division High School . . . . .						1				
*Chicago, Ill., R. A. Waller High School . . . . .								1		1
*Chicago, Ill., West Division High School . . . . .									1	
*Chicopee High School . . . . .						1	3			1
Choate School, Wallingford, Conn. . . . .				1				1		
*Cincinnati, O., Hughes High School . . . . .				2			1	1		
*Cincinnati, O., Walnut Hills High School . . . . .		1			2	3	1			
*Cincinnati, O., Woodward High School . . . . .		1					2	2	1	1
*Claremont, N. H., Stevens High School . . . . .				1					1	
*Cleveland, O., Central High School . . . . .	8	8	3	2	3	5	2			1
*Cleveland, O., East High School . . . . .								1	1	
*Cleveland, O., South High School . . . . .			1		2			1		
*Cleveland, O., West High School . . . . .					1					
*Clinton High School . . . . .	2					1	2			
Cloyne House School, Newport, R. I. . . . .		1					2	2		
Coburn Classical Inst., Waterville, Me. . . . .								1		
Colby College, Waterville, Me. . . . .	1				2	2		1		
†Colgate Academy, Hamilton, N. Y. . . . .					1		1			
College of Charleston, Charleston, S. C. . . . .				1						
College of the City of New York, New York, N. Y. . . . .			1	3			1			
College Preparatory School, Wilmington, Del. . . . .				1						
†Collegiate School, New York, N. Y. . . . .								1		1
Collegiate School, Windsor, N. S. . . . .								1		
*Colorado Springs, Colo., High School . . . . .	1								1	
Columbia Grammar School, New York, N. Y. . . . .	1							1		
Columbia Inst., New York, N. Y. . . . .			1							
*Columbia, Pa., High School . . . . .								1		
Columbia University, New York, N. Y. . . . .		1						1	1	
Columbian University, Washington, D. C. . . . .		2	1	1	2	1				
Columbus, O., Latin School . . . . .			1							
*Concord High School . . . . .	6	1	3	1	1	2	2	1	3	1
*Concord, N. H., High School . . . . .	2	2	1		1		2			1
Concord School . . . . .	2									1
†Cook Academy, Montour Falls, N. Y. . . . .								1		
Cornell College, Mount Vernon, Ia. . . . .							1			
Cornell University, Ithaca, N. Y. . . . .	1						1	3	1	
Country School for Boys, Baltimore, Md. . . . .									1	
*Coxsackie, N. Y., High School . . . . .									1	
†Cushing Academy, Ashburnham . . . . .				1			1			
†Cutler Academy, Colorado Springs, Colo. . . . .			1					1		
Cutler Private School, Newton . . . . .	2		3	3		3		1	1	
Cutler Private School, New York, N. Y. . . . .	8	6	8	4	9	3	5	4	5	5
Dalhousie College, Halifax, N. S. . . . .			1		1		1			
Dalzell Private School, Worcester . . . . .	2	1				1				
*Danvers, Holten High School . . . . .					1			2	2	
Dartmouth College, Hanover, N. H. . . . .		1		2	1			1		1
*Davenport, Ia., High School . . . . .					1		1	1		
*Dayton, O., Steele High School . . . . .						1		1		
†Dean Academy, Franklin . . . . .			1				3			



SCHOOL OR COLLEGE.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Dearborn-Morgan School, Orange, N. J. . . . .	1	.	.	.	1	.	.	.	.	.
*Dedham High School . . . . .	1	1	.	2	2	.	.	1	.	2
Deichmann School, Baltimore, Md. . . . .	.	.	2	.	.	.	.	.	.	.
DeLancey School, Philadelphia, Pa. . . . .	2	1	3	4	5	2	5	2	3	.
De Merritte School, Boston . . . . .	.	.	.	.	.	.	.	.	.	1
Denison University, Granville, O. . . . .	.	.	.	1	.	.	.	.	.	.
*Denver, Colo., East Side High School . . . . .	.	.	.	.	.	.	2	.	1	.
Denver, Colo., Normal and Preparatory School . . . . .	.	.	.	.	.	.	1	.	.	.
De Pauw University, Greencastle, Ind. . . . .	1	1	.	.	.	.	.	.	.	.
*Detroit, Mich., Central High School . . . . .	.	.	.	1	.	.	.	.	.	.
Dickinson College, Carlisle, Pa. . . . .	.	1	.	3	.	.	1	.	.	.
*Dorchester High School . . . . .	1	.	2	2	.	1	.	1	3	2
Dr. Holbrook School, Ossining, N.Y. . . . .	.	.	1	1	.	.	.	.	.	.
Drisler School, New York, N.Y. . . . .	.	.	.	.	.	1	.	.	1	.
Drury College, Springfield, Mo. . . . .	.	1	.	.	.	.	.	1	.	.
*Duluth, Minn., Central High School . . . . .	.	.	.	.	.	.	1	.	1	1
†Dummer Academy, South Byfield . . . . .	.	1	2	.	.	5	1	3	1	.
Dwight School, New York, N. Y. . . . .	1	.	.	.	.	.	.	.	.	.
Earlham College, Richmond, Ind. . . . .	2	1	.	1	1	.	.	1	.	.
*East Boston High School . . . . .	.	.	.	.	.	.	2	1	1	2
*East Bridgewater High School . . . . .	.	.	1	.	.	.	.	.	.	.
†East Maine Conference Seminary, Bucksport, Me. . . . .	1	.	.	.	.	.	.	.	.	.
*Easton High School, North Easton . . . . .	.	.	.	.	.	1	.	.	.	.
*East Orange, N. J., High School . . . . .	.	.	.	1	.	1	.	.	.	1
Eayrs Private School, Boston . . . . .	.	.	1	.	2	.	.	.	.	.
*Elmira Free Academy, Elmira, N. Y. . . . .	.	.	.	.	.	1	.	.	.	.
Emerson Institute, Washington, D. C. . . . .	.	.	.	.	1	.	.	.	.	.
Emory College, Oxford, Ga. . . . .	.	.	.	.	2	.	1	.	.	.
†Episcopal Academy, Philadelphia, Pa. . . . .	1	.	.	.	.	.	1	1	3	2
Episcopal High School, near Alexandria, Va. . . . .	.	.	.	.	.	.	1	.	.	.
†Eton College, Windsor, England . . . . .	1	.	.	.	.	.	.	2	.	1
Eureka College, Eureka, Ill. . . . .	.	.	.	.	1	.	.	.	.	.
†Evanston Academy of Northwestern Univ., Ill. . . . .	.	.	.	1	.	.	.	.	.	.
*Evanston, Ill., Township High School . . . . .	.	.	.	.	1	.	.	.	1	.
*Everett High School . . . . .	2	1	.	1	1	3	1	.	1	.
*Fall River, B. M. C. Durfee High School . . . . .	1	1	2	4	2	5	3	4	1	3
Fargo College, Fargo, N. D. . . . .	.	.	.	.	.	.	.	.	1	.
*Farmington, Me., High School . . . . .	.	.	.	.	.	.	1	.	.	.
*Fitchburg High School . . . . .	2	.	.	2	.	3	.	3	.	.
Flexner School, Louisville, Ky. . . . .	.	.	1	.	.	2	.	.	.	.
*Fonda, N. Y., High School . . . . .	.	.	1	.	1	.	.	.	.	.
Fordham College, Fordham, N. Y. . . . .	1	.	.	.	.	.	.	.	.	.
*Framingham Academy and High School . . . . .	.	.	1	.	.	.	.	1	1	1
Franklin and Marshall College, Lancaster, Pa. . . . .	.	.	1	1	1	.	.	.	.	1
Franklin College, New Athens, O. . . . .	.	.	.	.	.	.	.	1	.	.
*Franklin Falls, N. H., High School . . . . .	.	.	.	.	.	.	.	1	.	.
*Franklin, Horace Mann High School . . . . .	.	.	.	.	.	.	1	.	.	.
Franklin School, Cincinnati, O. . . . .	5	2	2	4	2	5	2	1	4	4
*Fredonia, N. Y., State Normal School . . . . .	.	.	.	.	.	2	.	.	.	.
Freeland School, New York, N. Y. . . . .	.	.	.	.	.	.	.	.	1	.
†Friends' Academy, New Bedford . . . . .	1	2	2	2	1	.	.	.	.	.
†Friends' School, Providence, R. I. . . . .	.	.	.	.	.	1	.	1	.	.
Friends' Select School, Washington, D.C. . . . .	.	.	1	1	.	.	.	1	.	.
†Friends' Seminary, New York, N. Y. . . . .	1	.	.	.	.	.	.	.	.	.
Frye Private School, Boston . . . . .	.	3	5	3	2	.	1	.	.	.
Furman University, Greenville, S. C. . . . .	.	.	.	.	.	.	.	.	1	.
*Galveston, Tex., Ball High School . . . . .	.	1	.	.	.	.	.	.	.	.
*Gardiner, Me., High School . . . . .	.	1	.	.	.	.	.	.	.	.



SCHOOL OR COLLEGE.	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
Dearborn-Morgan School, Orange, N. J. . . . .	1	.	.	.	1	.	.	.	.	.
*Dedham High School . . . . .	1	1	.	2	2	.	.	1	.	2
Deichmann School, Baltimore, Md. . . . .	.	.	2	.	.	.	.	.	.	.
DeLancey School, Philadelphia, Pa. . . . .	2	1	3	4	5	2	5	2	2	.
De Merritte School, Boston . . . . .	.	.	.	.	.	.	.	.	.	1
Denison University, Granville, O. . . . .	.	.	.	1	.	.	.	.	.	.
*Denver, Colo., East Side High School . . . . .	.	.	.	.	.	.	2	.	1	.
Denver, Colo., Normal and Preparatory School . . . . .	.	.	.	.	.	.	1	.	.	.
De Pauw University, Greencastle, Ind. . . . .	1	1	.	.	.	.	.	.	.	.
*Detroit, Mich., Central High School . . . . .	.	.	.	1	.	.	.	.	.	.
Dickinson College, Carlisle, Pa. . . . .	.	1	.	3	.	.	.	.	.	.
*Dorchester High School . . . . .	1	.	2	2	.	1	.	1	3	2
Dr. Holbrook School, Ossining, N.Y. . . . .	.	.	1	1	.	.	.	.	.	.
Drisler School, New York, N.Y. . . . .	.	.	.	.	.	1	.	.	1	.
Drury College, Springfield, Mo. . . . .	.	1	.	.	.	.	.	1	.	.
*Duluth, Minn., Central High School . . . . .	.	.	.	.	.	.	1	.	1	1
†Dummer Academy, South Byfield . . . . .	.	1	2	.	.	3	1	3	.	.
Dwight School, New York, N. Y. . . . .	1	.	.	.	.	.	.	.	.	.
Earlham College, Richmond, Ind. . . . .	2	1	.	1	1	.	.	1	.	.
*East Boston High School . . . . .	.	.	.	.	.	.	2	1	1	2
*East Bridgewater High School . . . . .	.	.	1	.	.	.	.	.	.	.
†East Maine Conference Seminary, Bucksport, Me. . . . .	1	.	.	.	.	.	.	.	.	.
*Easton High School, North Easton . . . . .	.	.	.	.	.	1	.	.	.	.
*East Orange, N. J., High School . . . . .	.	.	.	1	.	1	.	.	.	1
Eayrs Private School, Boston . . . . .	.	.	1	.	2	.	.	.	.	.
*Elmira Free Academy, Elmira, N. Y. . . . .	.	.	.	.	.	1	.	.	.	.
Emerson Institute, Washington, D. C. . . . .	.	.	.	.	1	.	.	.	.	.
Emory College, Oxford, Ga. . . . .	.	.	.	.	2	.	1	.	.	.
†Episcopal Academy, Philadelphia, Pa. . . . .	1	.	.	.	.	.	1	.	3	2
Episcopal High School, near Alexandria, Va. . . . .	.	.	.	.	.	.	1	.	.	.
†Eton College, Windsor, England . . . . .	1	.	.	.	.	.	.	2	.	1
Eureka College, Eureka, Ill. . . . .	.	.	.	.	1	.	.	.	.	.
†Evanston Academy of Northwestern Univ., Ill. . . . .	.	.	.	1	.	.	.	.	.	.
*Evanston, Ill., Township High School . . . . .	.	.	.	.	1	.	.	.	1	.
*Everett High School . . . . .	2	1	.	1	1	3	2	.	1	.
*Fall River, B. M. C. Durfee High School . . . . .	1	1	2	4	2	5	3	4	1	3
Fargo College, Fargo, N. D. . . . .	.	.	.	.	.	.	.	.	1	.
*Farmington, Me., High School . . . . .	.	.	.	.	.	.	1	.	.	.
*Fitchburg High School . . . . .	2	.	.	2	.	3	.	3	.	.
Flexner School, Louisville, Ky. . . . .	.	.	1	.	.	2	.	.	.	.
*Fonda, N. Y., High School . . . . .	.	.	1	.	1	.	.	.	.	.
Fordham College, Fordham, N. Y. . . . .	1	.	.	.	.	.	.	.	.	.
*Framingham Academy and High School . . . . .	.	.	1	.	.	.	.	1	1	1
Franklin and Marshall College, Lancaster, Pa. . . . .	.	.	.	1	1	.	.	.	.	1
Franklin College, New Athens, O. . . . .	.	.	.	.	.	.	.	1	.	.
*Franklin Falls, N. H., High School . . . . .	.	.	.	.	.	.	.	1	.	.
*Franklin, Horace Mann High School . . . . .	.	.	.	.	.	.	1	.	.	.
Franklin School, Cincinnati, O. . . . .	5	2	2	4	2	5	2	1	4	4
*Fredonia, N. Y., State Normal School . . . . .	.	.	.	.	.	2	.	.	.	.
Freeland School, New York, N. Y. . . . .	.	.	.	.	.	.	.	.	1	.
†Friends' Academy, New Bedford . . . . .	1	2	2	2	1	.	.	.	.	.
†Friends' School, Providence, R. I. . . . .	.	.	.	.	.	1	.	1	.	.
Friends' Select School, Washington, D.C. . . . .	.	.	1	1	.	.	.	1	.	.
†Friends' Seminary, New York, N. Y. . . . .	1	.	.	.	.	.	.	.	.	.
Frye Private School, Boston . . . . .	.	3	5	3	2	.	1	.	.	.
Furman University, Greenville, S. C. . . . .	.	.	.	.	.	.	.	.	1	.
*Galveston, Tex., Ball High School . . . . .	.	1	.	.	.	.	.	.	.	.
*Gardiner, Me., High School . . . . .	.	1	.	.	.	.	.	.	.	.



SCHOOL OR COLLEGE.	1895.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Illinois State Normal University, Normal, Ill. . . . .				1						
Illinois Wesleyan University, Bloomington, Ill. . . . .				1						
Indiana University, Bloomington, Ind. . . . .		1		2			2			
*Indianapolis, Ind., Manual Training High School . . . . .				1						
*Indianapolis, Ind., Shortridge High School . . . . .							■	1	2	
Institute Sillig, Vevey, Switzerland . . . . .	1									
*Interlaken, N. Y., High School . . . . .										1
Iowa College, Grinnell, Ia. . . . .					1					
*Ipswich, Manning High School . . . . .		1			1					
Irving School, New York, N. Y. . . . .			1	1						1
*Ithaca, N. Y., High School . . . . .										1
*Jacksonville, Fla., Duval High School . . . . .		1								
†Jacob Tome Institute, Port Deposit, Md. . . . .								1		1
Jenner's Preparatory School, Syracuse, N. Y. . . . .	1	1								
*Jersey City, N. J., High School . . . . .				1						
*Johnstown, Pa., High School . . . . .				1		1				
*Kansas City, Mo., Central High School . . . . .		1			1				2	
*Karls-Gymnasium, Stuttgart, Germany . . . . .					1					
Kelvin School, New York, N. Y. . . . .										1
Kendall's Private School, Cambridge . . . . .		1								
*Kennebunk, Me., High School . . . . .										1
Kenyon College, Gambier, O. . . . .				1			1			
Keystone Academy, Factoryville, Pa. . . . .		1								
King School, Stamford, Conn. . . . .	1									
Kiskeminetias Springs School, Saltsburg, Pa. . . . .						1				
Knox College, Galesburg, Ill. . . . .			1							
Lafayette College, Easton, Pa. . . . .		1					1	1		1
*La Grange, Ill., Lyons Township High School . . . . .			1	1						
†Lake Forest Academy, Lake Forest, Ill. . . . .	1	8		2		1			1	
Lake Forest College, Lake Forest, Ill. . . . .				1			1			1
Lakeside School, Chicago, Ill. . . . .		1	1							
Lakewood School, Lakewood, N. J. . . . .								1		
*Lancaster, N. H., Academy and High School . . . . .	1				2					
La Salle Academy, Providence, R. I. . . . .		1								
La Villa School, Lausanne, Onchy, Switzerland . . . . .								1		
*Lawrence High School . . . . .	1	2	1	3	2	1	1	4		
Lawrence Scientific School, Cambridge . . . . .	9	13	13	10	9	11	23	21	17	26
†Lawrenceville School, Lawrenceville, N. J. . . . .		3	2	2	2	■		1	4	
Leal's School for Boys, Plainfield, N. J. . . . .			1	1				1		
†Leicester Academy, Leicester . . . . .					1				1	
Leland Stanford Jr. Univ., Stanford Univ., Cal. . . . .	1		2			1		2	1	
*Leominster, Field High School . . . . .			1						1	
†Lewis Institute, Chicago, Ill. . . . .					1				1	
*Lexington High School . . . . .							1	1		
*Lockport, N. Y., High School . . . . .							2			1
*Los Angeles, Cal., High School . . . . .		1								
*Louisville, Ky., Male High School . . . . .	1	1	1		1	2	1	1	1	
Louisville School for Boys, Louisville, Ky. . . . .							3			
*Lowell High School . . . . .	1	2		1	2	6	3	3	1	2
Lycée Condorcet, Paris, France . . . . .					1					
*Lynn Classical High School . . . . .	6	4	5	2	2	1	1	10	4	5
*Lynn English High School . . . . .	1		1							
*Machias, Me., High School . . . . .			1							
McMaster University, Toronto, Ont. . . . .				1	1		1			
McMinnville College, McMinnville, Ore. . . . .				1						
*Malden High School . . . . .	5		9		3	1	7	1	1	1
Malvern College, Malvern, England . . . . .								2		
*Manchester, N. H., High School . . . . .	1	2		2	2	1				

SCHOOL OR COLLEGE.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
*Mansfield High School . . . . .						1				
*Marlboro High School . . . . .		2		2						
Maryville College, Maryville, Tenn. . . . .	1									
Mass. Agricultural College, Amherst . . . . .			1							
Mass. Institute of Technology, Boston . . . . .	1			1			1	1	1	1
*Medford High School . . . . .	1	1		1	1		3	1	1	1
*Melrose High School . . . . .	2	2		3	2	4	2	1	2	
Mercersburg College, Mercersburg, Pa. . . . .	1									
*Meriden, Conn., High School . . . . .		1								
*Methuen High School . . . . .								1		
Miami University, Oxford, O. . . . .		1								
Michigan Military Academy, Orchard Lake, Mich. . . . .				2						
*Middleboro High School . . . . .				1		1				
†Middlesex School, Concord . . . . .										6
*Middletown, N. Y., High School . . . . .						1				
*Milford High School . . . . .	1									
†Milton Academy, Milton . . . . .	5	9	8	10	11	10	8	9	16	11
*Milton High School . . . . .		2		2					1	2
Milwaukee Academy, Milwaukee, Wis. . . . .				1		1			1	
*Milwaukee, Wis., East Division High School . . . . .			1	1	2		1			
*Milwaukee, Wis., West Division High School . . . . .							1			
*Minneapolis, Minn., Central High School . . . . .										1
Mississippi College, Clinton, Miss. . . . .	2		1							
Mohegan Lake School, Mohegan, N. Y. . . . .		1	1							
†Monson Academy, Monson . . . . .			1		1					
Montclair Military Academy, Montclair, N. J. . . . .								1		
*Montclair, N. J., High School . . . . .			2		1	1			3	
*Montpelier, Vt., High School . . . . .	1									
Morristown School, Morristown, N. J. . . . .				1	1	1	3	3	3	2
Morse & Rogers Private School, New York, N. Y. . . . .	1		3	1					1	
†Moses Brown School, Providence, R. I. . . . .										2
Mosher's Home Preparatory School, New Bedford . . . . .			1							
†Mount Hermon School, Mount Hermon . . . . .		2				1	1		2	
†Mount Pleasant Military Academy, Ossining, N. Y. . . . .							1			
Mt. Union College, Alliance, O. . . . .	1		1			1	1		1	
*Nashua, N. H., High School . . . . .			1			2				
*Natick High School . . . . .	1	2	1				1	1		
National Capital School, Washington, D. C. . . . .			1		1					
*Needham High School . . . . .		1	1	2					2	
Nevada State University, Reno, Nev. . . . .	1									
†Newark Academy, Newark, N. J. . . . .					1				1	
*New Bedford High School . . . . .		1	5	1	1				1	1
*Newburgh Free Academy, Newburgh, N. Y. . . . .				1		1				2
*Newburyport High School . . . . .		3	1		3		1			
*Newport, R. I., Rogers High School . . . . .		1	2			4		1		1
*Newton High School, Newtonville . . . . .	6	12	10	2	8	8	15	13	12	5
*New York, N. Y., De Witt Clinton High School . . . . .							1		1	
New York, N. Y., Ethical Culture High School . . . . .										1
*New York, N. Y., Morris High School . . . . .								1		
New York University, New York, N. Y. . . . .				1				1	1	
Nichols School, Buffalo, N. Y. . . . .	2	1		2	1		1			
Noble & Greenough Private School, Boston . . . . .	9	11	14	22	8	23	17	21	23	25
*North Adams, Drury High School . . . . .					2					
*Northampton High School . . . . .		1						1	1	
*North Andover, Johnson High School . . . . .							1			
*North Attleboro High School . . . . .	1			1	2		1	1		1
*Northborough High School . . . . .									1	1
*North Tonawanda, N. Y., High School . . . . .			1							

SCHOOL OR COLLEGE.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Northwestern University, Evanston, Ill. . . . .			1	1			1			
†Norwich Free Academy, Norwich, Conn. . . . .								1		
*Norwood High School . . . . .							1			1
Oahu College, Honolulu, H. I. . . . .	1				1				2	1
*Oak Park, Ill., High School . . . . .							1		1	
Oberlin Academy, Oberlin, O. . . . .								1		
Oberlin College, Oberlin, O. . . . .			3	1		1	1	3		
*Ogden, Utah, High School . . . . .									1	
†Ohio Military Institute, Cincinnati, O. . . . .										1
Ohio State University, Columbus, O. . . . .				2	1		2	1	2	
Ohio University, Athens, O. . . . .					1					
Ohio Wesleyan University, Delaware, O. . . . .	4				1	1		1	1	
Olivet College, Olivet, Mich. . . . .						1				
*Omaha, Neb., High School . . . . .		2								1
*Oneonta, N. Y., High School . . . . .								1		
*Oneonta State Normal School, Oneonta, N. Y. . . . .	1		1	1			1	2	2	
*Orange High School . . . . .								1		
*Orange, N. J., High School No 1 . . . . .		1								
Ottawa, Canada, Collegiate Institute . . . . .										1
Otterbein University, Westerville, O. . . . .							1			
*Owego Free Academy, Owego, N. Y. . . . .		1				1				
Oxford School, Malden . . . . .								2		
Oxford University, Oxford, England . . . . .										1
Patterson-Davenport School, Louisville, Ky. . . . .									1	
*Pawtucket, R. I., High School . . . . .	3	1								
*Peabody High School . . . . .			1		2		1			
Penn College, Oskaloosa, Ia. . . . .							1			
Pennsylvania College, Gettysburg, Pa. . . . .								2	1	
Pennsylvania Military College, Chester, Pa. . . . .									1	
*Peoria, Ill., High School . . . . .					1					
Perkiomen Seminary, Pennsburg, Pa. . . . .				1						
*Perry, N. Y., High School . . . . .										1
*Philadelphia, Pa., Central High School . . . . .		1		1	2	1	2	3	2	
*Philadelphia, Pa., Northeast Manual Training School . . . . .						1				
†Phillips Academy, Andover . . . . .	22	22	16	8	16	11	17	17	10	7
†Phillips Academy, Exeter, N. H. . . . .	8	7	23	31	35	25	24	26	23	23
*Pittsburg, Pa., Central High School . . . . .	2	3	1			1	3	1	2	1
*Pittsfield High School . . . . .	2		1				1		2	1
*Plainfield, N. J., High School . . . . .									1	
*Plymouth High School . . . . .	1			1	1	1			1	
Pomfret School, Pomfret, Conn. . . . .		2	4	5	9	4	2	6	11	4
†Portland Academy, Portland, Ore. . . . .	1	1		2	2	1		1		
*Portland, Me., Deering High School . . . . .							2	1		
*Portland, Me., High School . . . . .	1	1	2	2	3	1	2	1	1	1
*Portsmouth, N. H., High School . . . . .			2		1	1	1	1		
Powder Point School, Duxbury . . . . .	2			2	1					
Princeton University, Princeton, N. J. . . . .								1		1
Princeton-Yale School, Chicago, Ill. . . . .	1									
Princeville Academy, Princeville, Ill. . . . .					1					
†Proctor Academy, Andover, N. H. . . . .	2									
Prosser-Preparatory, Kansas City, Mo. . . . .									2	
*Providence, R. I., Classical High School . . . . .			1		2					
*Providence, R. I., Hope St. High School . . . . .		1						1		
Queen's University, Kingston, Ont. . . . .		1					1			
*Quincy High School . . . . .	2		1	2	1	1	1	1	2	
*Quincy, Ill., High School . . . . .							1			
*Reading High School . . . . .				1				1		1
*Reading, Pa., Boys' High School . . . . .				1	3		1	2		

SCHOOL OR COLLEGE.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Richmond College, Richmond, Va . . . . .										1
Rideoute, Miss C. L., Private School, Boston . .	1									
Ridge School, Washington, Conn. . . . .			1				3	1	3	
*Bridge Manual Training School, Cambridge . .								1		
Riverview Military Academy, Poughkeepsie, N. Y.		1	2			1				1
*Rochester, N. Y., East High School . . . . .				1					1	1
*Rockford, Ill., High School . . . . .								1		
*Rock Island, Ill., High School . . . . .	1									
*Rockland High School . . . . .		1	1		1	2	1	3		
Rock Ridge School, Wellesley Hills . . . . .									1	1
*Roxbury High School . . . . .		3	3	1	2	2	5	1	1	1
†Roxbury Latin School . . . . .	20	14	12	21	16	10	22	10	11	9
Rugby School, Kenilworth, Ill. . . . .			1	2	1	1	2			
Rutger's College, New Brunswick, N. J. . . . .									1	
Rutger's Coll. Prep. School, New Brunswick, N. J.									1	
Sachs Collegiate Institute, New York, N. Y. . . .	6	2	3	11	3	2	5	2	2	4
*St. Albans, Vt., High School . . . . .										1
St. Austin's School, West New Brighton, N. Y. .				2						
St. Bartholomew School, Morristown, N. J. . .	1	1								
St. George's School, Newport, R. I. . . . .					1	1	2		3	3
St. John's School, Manlius, N. Y. . . . .						1				
†St. Johnsbury Academy, St. Johnsbury, Vt. . .	1							1		
St. Lawrence University, Canton, N. Y. . . . .			2	1	1			1		
*St. Louis, Mo., Central High School . . . . .				2	1	2			1	
†St. Mark's School, Southboro . . . . .	9	4	7	12	16	20	11	4	11	13
*St. Mary's, O., Public High School . . . . .							1			
St. Paul Academy, St. Paul, Minn. . . . .							1			
*St. Paul, Minn., Central High School . . . . .	1	1		1			3		1	
†St. Paul's School, Concord, N. H. . . . .	11	11	5	15	10	21	10	17	22	17
†St. Paul's School, Garden City, L. I., N. Y. . .	1	1	2		2		1			1
St. Stephen's College, Annandale, N. Y. . . . .								1		
St. Thomas Aquinas College, Cambridgeport . .				1				1		
*Salem Classical and High School . . . . .	3	6	5	2	5	5	3	1	5	1
*Salt Lake City, Utah, High School . . . . .										2
Salt Lake Collegiate Institute, Salt Lake City, Utah										1
*San Francisco, Cal., Lowell High School . . . .							1			
*Saugus High School . . . . .					2	1		1		
School of the Lackawanna, Scranton, Pa. . . . .				1				1	1	
School of Pedagogy, Philadelphia, Pa. . . . .									1	
Schools in Turkey . . . . .					1					
*Scranton, Pa., High School . . . . .					1		1			1
†Shady Side Academy, Pittsburg, Pa . . . . .				1			1			
†Shattuck School, Faribault, Minn. . . . .			1							
Smith Academy, St. Louis, Mo. . . . .	6	2	6	2	4	4	1	3	2	1
Smith, Miss K. V., Private School, Cambridge .	1			1						
*Somerville English High School . . . . .	2	1								
*Somerville Latin High School . . . . .	3	7	6	9	6	3	11	8	10	4
South Carolina College, Columbia, S. C. . . .		1								
†South Side Academy, Chicago, Ill. . . . .								1		
*Spokane, Wash., High School . . . . .	1									
*Springfield Central High School . . . . .		3	6	2	5	2	3	4	11	
State University of Iowa, Iowa City, Ia. . . .				2			1			1
Staten Island Academy, New Brighton, N. Y. . .							11		1	
Stone Private School, Boston . . . . .	1	1	3	5	7	7	7	8	6	11
Swarthmore College, Swarthmore, Pa. . . . .		1	1			1				
Swarthmore Preparatory School, Swarthmore, Pa.									1	
Syracuse University, Syracuse, N. Y. . . . .					2	1		3		
†Tabor Academy, Marion . . . . .	1		1		1					





SCHOOL OR COLLEGE.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
University School, Washington, D. C. . . . .				1	2		2			
Ursinus College, Collegeville, Pa. . . . .		1	1							
*Utica Free Academy, Utica, N. Y. . . . .					1	1	1	1	1	1
Utica Preparatory School, Utica, N. Y. . . . .				2						1
Van Buren College, Van Buren, Me. . . . .							1			
Vanderbilt University, Nashville, Tenn. . . . .				1	2	1				
Volkmann Private School, Boston . . . . .	1	8	3	3	8	10	14	15	■	17
Waban School, Waban . . . . .	1	2								
*Wakefield High School . . . . .				1	1		2			
Walker's Preparatory School, Salem . . . . .		1					1			
*Walpole High School . . . . .					1	2				
*Waltham High School . . . . .	1	2		2	3	3	3		2	1
*Walton, N. Y., High School . . . . .					1					
*Ware High School . . . . .								1		
*Warren, O., High School . . . . .								1		
Washburn College, Topeka, Kan. . . . .							2			
*Washington, D. C., Central High School . . . . .			1							2
*Washington, D. C., M St. High School . . . . .								1	1	
*Washington, D. C., Western High School . . . . .				1		2	5	2	2	
Washington School for Boys, Washington, D. C. . . . .							1			
Washington University, St. Louis, Mo. . . . .				2						
*Watertown, Phillips High School . . . . .		1		1	2			1		4
*Waterville, N. Y., High School . . . . .								1		
*Webster High School . . . . .			1						1	
*Wellesley High School, Wellesley Hills . . . . .				2		2	1		1	1
*Wellsville, O., High School . . . . .					1					
† Wesleyan Academy, Wilbraham . . . . .										1
Wesleyan University, Middletown, Conn. . . . .	1	1						1	2	
*West Aurora, Ill., High School . . . . .			1							
*Westboro High School . . . . .				1						
† West Bridgewater, Howard High School . . . . .				1			1			
*Westchester, Pa., State Normal School . . . . .						1	1	1	1	
Westerleigh Collegiate Inst., New Brighton, N. Y. . . . .									1	
*Westerly, R. I., High School . . . . .				2			1	1		
Western Maryland College, Westminster, Md. . . . .							1			
Western Reserve University, Cleveland, O. . . . .			1							
*Westfield High School . . . . .							1			
*Westfield, N. Y., High School . . . . .					1					
Westminster School, Simsbury, Conn. . . . .			2						3	
*Weston High School . . . . .							1			
*West Orange, N. J., High School . . . . .				1		1			1	
*West Roxbury High School, Jamaica Plain . . . . .			1				1			
*West Springfield High School . . . . .							1			
*Weymouth High School, Weymouth Centre . . . . .	1			1				1		
*White Plains, N. Y., High School . . . . .										1
*Wilkes-Barre, Pa., High School . . . . .		1				1				
Willamette University, Salem, Ore. . . . .			1		1					
† William Penn Charter School, Philadelphia, Pa. . . . .	3			1		1	2		1	1
Williams College, Williamstown . . . . .			1	1					1	1
† Williston Seminary, Easthampton . . . . .		1				2				2
Wilson-Vail School, New York, N. Y. . . . .				1						
*Winchester High School . . . . .	1	1	1		1	1	1		3	
*Winthrop High School . . . . .							1			
Wittenberg College, Springfield, O. . . . .					1			1		
*Woburn High School . . . . .	1	2			2	4	1	2		3
Wofford College, Spartanburg, S. C. . . . .		1								
Woodbridge School, New York, N. Y. . . . .				1	1	3				
*Woodstock, Vt., High School . . . . .					1					

SCHOOL OR COLLEGE.	1890.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
*Woonsocket, R. I., High School . . . . .	1	1	.	.	.	.	4	1	.	1
†Worcester Academy, Worcester . . . . .	1	3	7	4	7	6	2	3	.	4
*Worcester Classical High School . . . . .	3	9	5	3	2	6	4	7	3	6
*Worcester English High School . . . . .	1	.	.	.	.	.	.	.	.	.
Worcester Polytechnic Institute, Worcester . . . . .	.	.	.	1	.	.	.	.	.	.
*Worcester South High School . . . . .	.	.	.	.	.	.	.	1	1	.
†Wyoming Seminary, Kingston, Pa. . . . .	.	.	.	.	.	.	.	1	1	.
Yale University, New Haven, Conn. . . . .	.	.	.	.	2	.	1	1	.	.
*Yonkers, N. Y., High School . . . . .	.	.	.	.	.	.	.	.	1	1
York County Academy, York, Pa. . . . .	.	.	.	.	.	1	.	.	.	.
*Youngstown, O., Rayen High School . . . . .	1	1	3	1	2	5	.	1	1	.
Private Pupils . . . . .	23	17	12	13	19	19	17	10	■	15

Allen School, New York, N.Y., changed to Allen-Stevenson School.

Barnard School, St. Paul, Minn., changed to St. Paul Academy.

Carteret School, Short Hills, N.J., changed to Short Hills School.

Chicago, Ill., North Division High School changed to R. A. Waller High School.

Columbus, O., Latin School changed to University School in 1899.

Dr Holbrook School, Ossining, N.Y. Name of place changed from Sing Sing.

Gates College, Neligh, Neb., changed to Gates Academy.

Montpelier, Vt., High School officially known as Washington County Grammar School.

Morse and Rogers Private School, formerly Morse's Private School.

Moses Brown School, Providence, R.I., changed from Friends' School in 1904.

Patterson-Davenport School, Louisville, Ky., changed from Louisville School for Boys.

St. Austin's School, West New Brighton, N.Y., changed to Salisbury School, Salisbury, Conn

St. Bartholomew's School, Morristown, N.J., changed to Morristown School in 1896.

South Side Academy, Chicago, Ill., changed to University High School.

Westminster School, Simsbury, Conn., moved from Dobbs Ferry, N.Y., in 1900.

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# TREASURER'S STATEMENT



1905



## TREASURER'S STATEMENT.

TO THE BOARD OF OVERSEERS OF HARVARD COLLEGE: —

The Treasurer of the College submits the Annual Statement of the financial affairs of the University, for the year ending July 31, 1905, in the usual form.

The Funds separately invested, with the income thereof, are as follows: —

	UNIVERSITY.	Principal, July 31, 1906.	Income.
<b>John W. Carter,</b>			
University Houses and Lands, . . . . .		\$12,500.00	\$451.05
<b>George B. Dorr,</b>			
University Houses and Lands, . . . . .		115,966.56	4,225.86
<b>George Draper,</b>			
University Houses and Lands, . . . . .		48,458.50	1,765.85
<b>Robert H. Eddy,</b>			
University Houses and Lands, . . . . .		56,787.00	
<b>John Davis William French (part),</b>			
University Houses and Lands, . . . . .		4,992.48	
<b>John C. Gray,</b>			
University Houses and Lands, . . . . .		25,000.00	911.01
<b>Walter Hastings,</b>			
Real Estate, Sacramento St., Cambridge, . . . .		20,000.00	6.85
<b>Insurance and Guaranty,</b>			
University Houses and Lands, . . . . .		82,005.06	2,082.28
Real Estate, Lucas St., Boston, . . . . .		4,000.00	
<b>Joseph Lee,</b>			
University Houses and Lands, . . . . .		10,000.00	864.40
<b>Henry S. Nourse (part),</b>			
25 shares Brookside Mills, . . . . .		2,500.00	175.00
40 " Missouri Zinc Fields Co., . . . . .		120.00	20.00
3 " Pennsylvania Steel Co., common, . . .		8.00	
15 " Western Tel. & Tel. Co., preferred (sold during year), . . . . .			88.75
Mortgage Notes, . . . . .		7,300.00	593.95
<b>Francis E. Parker,</b>			
University Houses and Lands, . . . . .		113,817.44	4,147.54
Amounts carried forward, . . . . .		<u>\$453,450.04</u>	<u>\$14,777.54</u>

Amounts brought forward, . . . . .	\$453,450.04	\$14,777.54
<b>Riverside,</b>		
6 shares Harvard Riverside Associates, . . . . .	6,000.00	
<b>Henry Villard,</b>		
University Houses and Lands, . . . . .	50,000.00	1,822.02
<b>William F. Weld,</b>		
University Houses and Lands, . . . . .	100,000.00	3,644.03

## COLLEGE.

<b>T. Jefferson Coolidge, for Research in Physics,</b>		
625 shares Massachusetts Electric Companies, pref.,	57,500.00	
<b>Eaton Professorship of the Science of Government,</b>		
Mortgages on real estate in New York City, . . .	84,000.00	4,065.00
<b>Arthur T. Lyman Fund,</b>		
Note of Boston Manufacturing Co. (paid during year),		962.50
<b>Charles Eliot Norton Fellowship,</b>		
\$15,000 Northern Pacific—Great Northern Joint 4's		
(C. B. & Q. collateral) of 1921, . . . . .	14,100.00	600.00
<b>George Foster Peabody Scholarship,</b>		
\$6,000 Mexican Coal & Coke Co. 1st M., S. F. 5's		
of 1926, . . . . .	4,800.00	300.00
<b>Jonathan Phillips's Gift,</b>		
\$10,000 City of Boston 3½'s of 1920, . . . . .	10,000.00	350.00
<b>Professorship of Hygiene (part),</b>		
Policy of Mass. Hospital Life Insurance Co., . .	5,000.00	200.00
\$16,000 Northern Pacific—Great Northern Joint 4's		
(C. B. & Q. collateral) of 1921, . . . . .	15,681.85	640.00
<b>Scholarship of the Class of 1883,</b>		
\$5,000 Brookline Gas Light Co. Gen'l M. 5's of 1918		
(sold during year), . . . . .		188.89
<b>Dunlap Smith Scholarship,</b>		
\$5,000 Metropolitan West Side Elevated R. R. Ex-		
tension M. 4's of 1938, . . . . .	4,700.00	200.00
<b>Stoughton Scholarship (part),</b>		
Real Estate in Dorchester, . . . . .	1,294.80	100.00
<b>Wales Professorship of Sanskrit,</b>		
Real Estate, Cornhill, Boston, . . . . .	40,000.00	1,668.71
<b>Samuel Ward's Gift (part),</b>		
Ward's (Bumkin) Island, Boston Harbor, . . .	1.00	
<b>David Ames Wells (part),</b>		
Real Estate in Brooklyn, New York (sold during		
year), . . . . .		189.97
11 shares Walter A. Wood M. & R. Machine Co., .	550.00	
<b>Edward W. Codman (part),</b>		
\$5,000 Kansas City, Fort Scott & Memphis R. R.		
Cons. M. 6's of 1928, . . . . .	6,250.00	150.00
10,000 Northern Pacific—Great Northern Joint 4's		
(C. B. & Q. collateral) of 1921, . . . . .	9,800.00	100.00
Amounts carried forward, . . . . .	\$868,127.19	\$29,908.66

Amounts brought forward, . . . . .		\$868,127.19	\$29,908.66
<b>Edward W. Codman (continued),</b>			
10 shares Boston & Albany R. R., . . . . .	2,520.00	25.00	
55 " Boston & Lowell R. R., . . . . .	18,200.00	220.00	
68 " Boston & Maine R. R., common, . . . . .	10,710.00	110.25	
19 " Fitchburg R. R., preferred, . . . . .	2,790.62	28.75	
29 " Old Colony R. R., . . . . .	5,945.00	50.75	
37 " Pere Marquette R. R., preferred, . . . . .	2,923.00	74.00	
50 " " " " common (sold during year), . . . . .		175.00	
62 " Old Boston National Bank, . . . . .	6,618.50	124.00	
8 " Second National Bank (sold during year), . . . . .		28.00	
10 " National Union Bank (sold during year), . . . . .		35.00	
2 " Pacific Mills, . . . . .	4,600.00	200.00	
25 " Barristers Hall Trust, . . . . .	1,875.00	87.50	
11 " Boston Real Estate Trust, . . . . .	13,225.00	225.00	
25 " Central Building Trust, . . . . .	2,875.00		
25 " Hotel Trust, . . . . .	2,800.00		
12 " Municipal Real Estate Trust, . . . . .	1,200.00	24.00	
Undivided half of real estate in Nahant, Mass., . . . . .	10,733.72		
<b>Daniel A. Buckley (part),</b>			
Real Estate in Cambridge, Mass., . . . . .	57,700.00	2,596.05	
" " Deer Isle, Me., . . . . .	1.00		
<b>Teachers' Endowment (part),</b>			
Broadway Realty Co. Purchase Money, 2d M. 5's of 1916, . . . . .	5,000.00		
LIBRARY.			
<b>Ichabod Tucker (part),</b>			
Policy of Mass. Hospital Life Insurance Co., . . . . .	5,000.00	200.00	
LAW SCHOOL.			
<b>James Barr Ames Prize (part),</b>			
Personal Note, . . . . .	2,000.00	91.50	
MEDICAL SCHOOL.			
<b>Calvin and Lucy Ellis (part),</b>			
40,000 Northern Pacific-Great Northern Joint 4's (C. B. & Q. collateral) of 1921, . . . . .	26,585.00	1,600.00	
30 shares Boston & Providence R. R. Co. (sold in 1900, uncollected dividend), . . . . .		75.00	
Real Estate in Boston, . . . . .	22,500.00	224.01	
Real Estate in Eden, Bar Harbor, Maine, . . . . .	10,000.00		
<b>George C. Shattuck (part),</b>			
\$25,000 Kansas City, Fort Scott & Memphis R. R. Cons. M. 6's of 1928 (\$203.70 deducted from income for sinking premium), . . . . .	29,685.20	1,296.30	
Amounts carried forward, . . . . .	\$1,103,114.23	\$37,843.77	

Amounts brought forward, . . . . . \$1,108,114.23 \$37,343.77

#### OBSERVATORY.

Advancement of Astronomical Science (1902) (part),		
15 shares Calumet & Hecla Mining Co., . . . . .	9,000.00	675.00
Mortgage Note, . . . . .	8,000.00	180.00
\$5,000 Northern Pacific—Great Northern Joint 4's (C. B. & Q. collateral) of 1921, . . . . .	4,800.00	200.00

#### PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY.

<b>Peabody Building (part),</b>	<b>} \$54,000 Kansas &amp; Mis-</b>	<b>{</b>	<b>11,512.72</b>	<b>622.32</b>
<b>Peabody Collection (part),</b>			<b>19,218.64</b>	<b>1,038.84</b>
<b>Peabody Professor (part),</b>			<b>19,218.64</b>	<b>1,038.84</b>
<b>Thaw (part) (\$8.48 deducted from income for sinking premium),</b>				
<b>\$20,000 Girard Point Storage Co. 1st M. 3½'s of 1940,</b>			<b>20,296.62</b>	<b>691.52</b>

#### BUSSEY INSTITUTION.

Woodland Hill,				
Laboratory of Comparative Pathology building, .			18,647.40	1,000.00

#### ARNOLD ARBORETUM.

Robert Charles Billings,				
\$5,000 Butte Water Co. 1st M. 5's of 1921, . . . . .			4,000.00	250.00

#### SPECIAL FUNDS.

Bussey Trust,				
Real Estate, . . . . .			392,710.18	12,510.33
Robert Troup Paine (accumulating) (\$182.39 de- ducted from income for sinking premiums),				
\$38,000 Massachusetts 3½'s of 1913, . . . . .			39,230.38	1,185.25
5,000 " " 1916, . . . . .			5,229.40	154.15
4,000 " " 1935, . . . . .			4,228.60	132.38
4,000 " " 1938, . . . . .			4,352.91	99.43
Fund of the Class of 1834,				
Policy of Mass. Hospital Life Insurance Co., . . .			1,000.00	40.00
Fund of the Class of 1844,				
Policy of Mass. Hospital Life Insurance Co., . . .			6,500.00	260.00
Fund of the Class of 1853,				
Policy of Mass. Hospital Life Insurance Co., . . .			3,725.00	149.00
Charles L. Hancock Bequest (part),				
Real Estate in Chelsea, . . . . .			1.00	
Calvin and Lucy Ellis Aid (part),				
Real Estate in Boston, . . . . .			22,500.00	224.01
Amounts carried forward, . . . . .			\$1,692,285.72	\$57,794.84

Amounts brought forward, . . . . .		\$1,692,285.72	\$57,794.84
<b>George Smith Bequest (part),</b>			
\$10,000 Du Quoin, Ill., Water Works Co. 6's of			
1901, . . . . .	1.00		
20,000 Laclede Gas Light Co. 5's of 1919, . . .	20,000.00	1,000.00	
500 City of Whitewright, Texas, Permanent			
Improvement 6's of 1914 (sold during			
year), . . . . .		15.00	
32,000 United States Steel Corporation 5's of 1963,	24,000.00	1,600.00	
115 shares Boatmen's Bank of St. Louis, . . .	20,975.00	3,150.00	
200 " Laclede Gas Light Co., preferred, . .	18,800.00	1,000.00	
480 " United States Steel Corporation, pref.			
(sold during year), . . . . .		780.00	
<b>Price Greenleaf. (\$664.31 deducted from income</b>			
<b>for sinking premiums.) The total amount of</b>			
<b>this Fund is \$788,865.31, which is invested as</b>			
<b>follows:—</b>			
\$3,000 Chicago, Burl. & Quincy R. R. 4's of 1922,	2,880.00	120.00	
360 shares Boston & Lowell R. R., . . . . .	46,800.00	2,760.00	
817 " Boston & Maine R. R., . . . . .	48,724.00	2,219.00	
237 " Fitchburg R. R., preferred, . . . . .	22,806.27	1,185.00	
355 " Old Colony " . . . . .	63,190.00	2,485.00	
28 " N Y Central & Hudson River R. R., .	2,685.00	115.00	
290 " Northern R. R. (N. H.), . . . . .	39,290.00	1,740.00	
52 " West End Street Railway, preferred, .	4,305.58	208.00	
84 " Central Vermont R'y, . . . . .	4211.72		
707 " Pennsylvania R. R., . . . . .	51,856.04	2,121.00	
17 " Boston Real Estate Trust, . . . . .	22,978.75	675.00	
100 " Paddock Building Trust, . . . . .	10,000.00	211.00	
\$70,000 American Bell Telephone Co. 4's of 1908,	70,386.85	2,671.06	
70,000 Broadway Realty Co. Purchase money			
1st M. 5's of 1926, . . . . .	73,960.46	3,315.78	
24,000 Burl. & Mo. R. R. R. in Neb. non ex. 6's of			
1918, . . . . .	24,000.00	1,234.45	
48,500 Central Vermont R'y 1st M. 4's of 1920, .	37,845.00	1,740.00	
50,000 Chic. Junc. R'ys & Union Stock Yards 5's of			
1915, . . . . .	47,000.00	2,500.00	
8,000 Kansas City, Fort Scott & Memphis cons.			
M. 6's of 1928, . . . . .	9,641.58	408.63	
50,000 Metropolitan Tel. & Tel. Co. 1st M. 5's of			
1918, . . . . .	49,750.00	2,500.00	
25,000 New England Tel. & Tel. Co. 6's of 1906, .	25,074.21	1,425.78	
34,000 New York Central & Hudson River R. R.			
(Michigan Central Collateral) 3½'s of 1928,	28,412.10	1,190.00	
32,000 Northern Pacific—Great Northern Joint 4's			
(C. B. & Q. collateral) of 1921, . . . . .	19,993.55	1,280.00	
50,000 Union Pacific R.R. 1st M. & L.G. 4's of 1947,	44,625.00	2,000.00	
50,000 Note of Massachusetts Cotton Mills, . . .	50,000.00	2,000.00	
Cash in City Trust Co., . . . . .	2,782.22	82.60	
<b>Totals, . . . . .</b>		<b>\$2,564,927.03</b>	<b>\$101,786.13</b>



The other Funds are invested as a whole. The general investments are stated in detail on pages 52, 53, 54, and 55 of this report. The usual summary of them, and of their income, is as follows : —

Investments.	Principal, Aug. 1, 1904.	Principal, July 31, 1905.	Income.
Notes, Mortgages, &c., . . . . .	\$1,334,000.00	\$1,350,000.00	\$64,365.89
Public Funds, . . . . .		108,584.55	2,000.00
Railroad Bonds, . . . . .	5,853,823.19	6,241,828.41	252,852.86
Sundry Bonds, . . . . .	1,827,982.44	2,138,970.90	82,992.63
Railroad Stocks, . . . . .	805,375.17	656,962.36	33,074.75
Manufacturing and Telephone Stocks,	277,062.77	473,062.77	20,550.00
Real Estate Trust Stocks, . . . . .	695,421.60	695,421.60	25,869.83
Real Estate, . . . . .	2,305,087.56	2,298,970.21	147,194.84
Advances to <b>Bussey Trust</b> , . . . . .	53,501.81	232,671.81	4,359.21
“ “ <b>Calvin &amp; Lucy Ellis</b>			
Real Estate, . . . . .	5.54	167.12	
“ “ <b>Dental School Real Estate</b> ,		34.52	
“ “ <b>Medical School Under-</b>			
<b>taking</b> , . . . . .	496,101.77	751,311.93	27,571.09
“ “ <b>Observatory</b> , . . . . .	5,453.52	5,466.59	272.68
“ “ <b>Peabody Museum of</b>			
<b>Am. Archaeology and</b>			
<b>Ethnology</b> , . . . . .	2,041.66	1,981.04	91.87
“ “ <b>Botanic Department</b> , . . . . .	7,261.09	8,088.11	363.05
“ “ <b>Dining Hall Association</b> ,	45,990.14	76,649.77	2,579.67
“ “ <b>Randall Hall</b> “	33,202.27	32,202.27	1,660.11
“ “ <b>Uriah A. Boyden</b>			
<b>Fund</b> , . . . . .		3,160.73	
“ “ <b>T. Jefferson Coolidge</b>			
<b>Fund</b> , . . . . .		1,076.03	
“ “ <b>Classical Publication Fund</b>			
<b>of the Class of 1856</b> ,	1,177.12	1,395.85	58.86
“ “ <b>Woodland Hill Fund</b> ,		2,011.46	
“ “ <b>Stadium</b> , . . . . .	57,932.73	55,886.08	2,953.35
“ “ <b>Sundry Accounts</b> , . . . . .	730.94	1,160.48	
Term Bills due in October, . . . . .	249,422.71		
Term Bills overdue, . . . . .	8,870.39	57,675.59	
Cash in Adams Trust Co., . . . . .	10,478.31	51,692.62	959.47
“ <b>Equitable Trust Co.</b> , . . . . .	105,938.41	48,787.87	1,369.35
“ <b>Merchants National Bank</b> , . . . . .		7,937.54	35.73
“ <b>National Shawmut Bank</b> , . . . . .		25,145.21	145.21
“ <b>National Union Bank</b> , . . . . .	15,413.69	61,719.58	363.39
“ <b>Old Boston National Bank</b> , . . . . .	4,253.87	42,858.31	1,894.01
“ <b>hands of Bursar</b> , . . . . .	29,455.96	38,217.37	
Totals of general investments, . . . . .	\$14,225,984.66	\$15,471,098.68	\$673,577.85
Totals of special investments, . . . . .	2,529,768.44	2,564,927.03	101,786.13
Amounts, . . . . .	\$16,755,753.10	\$18,036,025.71	\$775,363.98

At the meeting of the Corporation, October 26, 1891, it was

*“Voted, that the sum of \$23,341.97 being the net gain from sales of bonds at a profit, heretofore credited to the account of Railroad Bond Premiums, be transferred as of July 31, 1891, to a new account to be called ‘Gains and Losses for General Investments,’ which account shall be credited with all gains and charged with all losses hereafter arising from sales of property belonging to the general investments. As this account belongs pro rata to all the Funds sharing in general investments it is not to be allowed interest when its balance is on the credit side nor to be charged with interest when its balance is on the debit side.”*

The gains arising from the sale during the year of certain railroad bonds, amounting to \$10,878.78, were credited to “Gains and Losses for General Investments” in accordance with the terms of the vote of October 26, 1891. The balance to the credit of that account, July 31, 1905, was \$596,522.01.

The sums of \$8,664.57 and \$1,058.88 have been deducted from the income of all bonds bought at a premium and held respectively as general and special investments, and have been applied, as the fair yearly repayment from income, toward sinking the whole of these premiums at the maturity of the bonds.

The net income of the general investments has been divided at the rate of  $4\frac{22}{100}$  per cent. among the Funds to which they belong (excluding “Gains and Losses for General Investments”), after allowing special rates to certain temporary Funds and balances. The fraction, which was \$1,349.91, has been placed as usual to the credit of the University account.

The rate of income compared with that for 1903–04 shows an increase of fifteen one-hundredths of one per cent.

The following tables show in a summarized form the amount of income, gifts, etc., available for salaries, retiring allowances, and general expenses, the amount of expenditures for those purposes, and the resulting surpluses and deficits in the several departments of the University.

Neither the income nor the gifts, which are restricted to special uses, except in so far as those uses are the payment of salaries, retiring allowances, or general expenses, nor the expenditures therefrom, are included in these tables.

If the income of a restricted fund exceeds in any year the amount of the payments therefrom, such excess creates an addition to the principal thereof, which is temporary or permanent according to the terms of the restriction, —as in the case of Fellowship and Scholarship funds, etc. Therefore, in any year, there may be a surplus in the case of the restricted funds of a department, while there is a deficit in its general account.

If payments on account of a restricted fund exceed in any year the income available therefor, such excess of payments is treated as a loan or “advance” on account of general investments, which must be repaid from the future income of that fund.

If a “gift for immediate use” is not wholly spent before the end of the year, the unexpended balance thereof is included in the statement of “Funds and Balances” beginning on page 56.

#### THE UNIVERSITY. (See Table No. I, page 72.)

##### AVAILABLE FOR EXPENSES.

Income of Funds and balances, . . . . .	\$64,937.17	
Gifts, . . . . .	75.47	
Rents, . . . . .	2,810.00	
Sales, . . . . .	1,607.74	\$69,430.38

##### PAYMENTS.

Overseers' expenses, . . . . .	\$1,749.97	
Office expenses, . . . . .	18,517.74	
Salaries, . . . . .	45,341.02	
Retiring allowances, . . . . .	22,990.11	
Memorial Hall and Sanders Theatre, . . . . .	5,400.76	
Peabody Museum of American Archaeology and Ethnology (part, see Table XIV, page 112), . . . . .	1,263.44	
Semitic Museum (part, see Table XV, page 113), . . . . .	1,590.84	
Germanic Museum (part, see Table XVI, page 114), . . . . .	865.48	
William Hayes Fogg Art Museum (part, see Table XVII, page 114), . . . . .	2,816.99	
Appleton Chapel (part, see Table XIX, page 116), . . . . .	6,425.20	
Phillips Brooks House (part, see Table XX, page 117), . . . . .	2,123.00	
General expenses, . . . . .	23,980.26	133,014.81
Deficit, . . . . .		\$63,584.43

**THE COLLEGE, INCLUDING THE LAWRENCE SCIENTIFIC SCHOOL AND  
THE GRADUATE SCHOOL OF ARTS AND SCIENCES.**

(See Table No. II, page 75.)

**AVAILABLE FOR EXPENSES.**

Income of Funds and balances, . . . . .	\$105,101.76	
Gifts, . . . . .	17,722.95	
Rents, . . . . .	175.00	
Sales, . . . . .	3,601.81	
Insurance, . . . . .	5,542.48	
Receipts from students (not including Tuition fees in the School for Social Workers, or Gymnasium locker fees), . . . . .	558,718.05	
Sundry receipts at the Summer camp at Squam Lake, . .	15,019.46	\$705,881.01

**PAYMENTS.**

Salaries for instruction, . . . . .	\$408,887.99	
Salaries for administration, . . . . .	13,979.60	
Appropriations, . . . . .	33,126.90	
Scholarships from unrestricted income, . . . . .	3,400.00	
Expenses on account of public buildings, . . . . .	40,013.36	
Expenses on account of dormitories, . . . . .	48,639.79	
Summer Schools, . . . . .	20,840.97	
Museum of Comparative Zoölogy (part, see Table XIII, page 111), . . . . .	4,080.89	
Jefferson Physical Laboratory (part, see Table XVIII, page 115), . . . . .	690.22	
Hemenway Gymnasium (part, see Table XXI, page 118),	7,369.59	
General expenses, . . . . .	72,956.21	653,985.52
Surplus, . . . . .		\$51,895.49

**THE LIBRARY. (See Table No. III, page 93.)**

**AVAILABLE FOR EXPENSES.**

Income of Funds and balances, . . . . .	\$30,730.92	
Gifts, . . . . .	1,041.00	
Fees, . . . . .	85.00	
Sales, . . . . .	14.51	\$31,871.43

**PAYMENTS.**

Salaries, . . . . .	\$14,150.00	
Services — cataloguing, administration, etc., . . . . .	20,574.19	
General expenses, . . . . .	10,595.41	45,319.60
Deficit, . . . . .		\$13,448.17

The University. — Deficit as above stated, . . . . .	\$63,584.43
The Library. — Deficit as above stated, . . . . .	13,448.17
	<u>\$77,032.60</u>
The College. — Surplus as above stated, . . . . .	51,895.49
Deficit for the year in the combined accounts of the University, College, Lawrence Scientific School, Graduate School of Arts and Sciences, and Library, which has been paid from the principal of the Insur- ance and Guaranty Fund, . . . . .	<u>\$25,137.11</u>
The deficit in these combined accounts for 1903-04 was .	\$30,743.06
The principal of the Insurance and Guaranty Fund on July 31, 1905 was . . . . .	<u>\$36,005.06</u>

#### DIVINITY SCHOOL. (See Table No. IV, page 96.)

##### AVAILABLE FOR EXPENSES.

Income of Funds and balances, . . . . .	\$26,007.81	
Gifts, . . . . .	2,124.01	
Sales, . . . . .	123.25	
Repayments, . . . . .	108.91	
Receipts from students, . . . . .	<u>10,144.83</u>	\$38,508.81

##### PAYMENTS.

Salaries for instruction, . . . . .	\$31,301.72	
Salaries for administration, . . . . .	1,750.00	
Books, . . . . .	610.94	
General expenses, . . . . .	<u>7,932.07</u>	41,594.73
Deficit, . . . . .		<u>\$3,085.92</u>

In 1903-04 there was a deficit of . . . . .	\$8,555.25
The Divinity School credit balance on July 31, 1905 was	\$11,086.73

#### LAW SCHOOL. (See Table No. V, page 98.)

##### AVAILABLE FOR EXPENSES.

Income of Funds and balances, . . . . .	\$31,521.00	
Sales, . . . . .	55.00	
Repayments, . . . . .	77.17	
Receipts from students, . . . . .	<u>110,900.08</u>	\$142,553.25

##### PAYMENTS.

Salaries for instruction, . . . . .	\$53,983.33	
Salaries for administration, . . . . .	11,353.65	
Scholarships from unrestricted income, . . . . .	7,900.00	
Books, . . . . .	12,474.98	
General expenses, . . . . .	<u>15,490.07</u>	101,202.03
Surplus, . . . . .		<u>\$41,351.22</u>

In 1903-04 there was a surplus of . . . . .	\$44,674.21
The Law School credit balance on July 31, 1905 was .	\$322,908.17

**MEDICAL SCHOOL. (See Table No. VI, page 100.)****AVAILABLE FOR EXPENSES.**

Income of Funds and balances, . . . . .	\$42,796.97	
Gifts, . . . . .	6,250.00	
Receipts from students, . . . . .	65,373.42	\$114,420.39

**PAYMENTS.**

Salaries for instruction, . . . . .	\$98,657.32	
Salaries for administration, . . . . .	4,229.20	
Retiring allowance, . . . . .	1,000.00	
Appropriations, . . . . .	9,774.35	
General expenses, . . . . .	25,613.45	139,274.32

Deficit, . . . . . \$24,853.93

In 1903-04 there was a deficit of . . . . . \$15,759.08

The Medical School credit balance on July 31, 1905 was \$5,560.57

**DENTAL SCHOOL. (See Table No. VII, page 105.)****AVAILABLE FOR EXPENSES.**

Income of Funds and balances, . . . . .	\$2,280.78	
Fees from Infirmary, . . . . .	6,189.09	
Sales, . . . . .	330.53	
Receipts from students, . . . . .	17,382.60	\$26,183.00

**PAYMENTS.**

Salaries for instruction, . . . . .	\$10,795.00	
Salaries for administration, . . . . .	550.00	
General expenses, . . . . .	13,956.26	
Real estate (part, paid from accumulated income), . . .	20,000.00	45,801.26

Deficit, which is caused by the payment of  
\$20,000 from accumulated income on account  
of the cost of real estate bought for the site  
of the proposed new building (otherwise there  
would have been a surplus of \$881.74), . . . . . \$19,118.26

In 1903-04 there was a surplus of . . . . . \$565.28

The Dental School credit balance on July 31, 1905 was . \$11,846.73

**BUSSEY INSTITUTION. (See Table No. VIII, page 106.)****AVAILABLE FOR EXPENSES.**

Income of Funds and balances, . . . . .	\$5,679.84	
Rents, . . . . .	720.00	
Sales, . . . . .	147.81	
Board of animals, . . . . .	5,196.84	
Horticultural Department receipts, . . . . .	1,796.74	
Receipts from students, . . . . .	2,355.50	

Amount carried forward, . . . . . \$15,896.28

Amount brought forward, . . . . . \$15,896.23

PAYMENTS.

Salaries for instruction, . . . . .	\$8,000.00	
Horticultural Department expenses, . . . . .	1,961.56	
General expenses, . . . . .	7,357.02	17,318.58
Deficit, . . . . .		<u>\$1,422.35</u>
In 1903-04 there was a surplus of . . . . .	\$806.70	
The Bussey Institution credit balance on July 31, 1905		
was . . . . .	\$27,143.83	

ARNOLD ARBORETUM. (See Table No. IX, page 107.)

AVAILABLE FOR EXPENSES.

Income of Funds and balance, . . . . .	\$14,771.97	
Gifts, . . . . .	86,846.11	
Sales, . . . . .	1,592.85	\$53,210.93

PAYMENTS.

Salaries, . . . . .	\$3,500.00	
Rent, . . . . .	150.00	
General expenses, . . . . .	19,424.29	
Real estate, . . . . .	20,281.35	43,355.64
Surplus, . . . . .		<u>\$9,855.29</u>
In 1903-04 there was a surplus (from gifts) of . . . . .	\$4,701.04	
The Arboretum Construction Gifts credit balance on		
July 31, 1905 was . . . . .	\$28,905.81	

BOTANIC GARDEN AND BOTANIC MUSEUM.  
(See Table No. X, page 108.)

AVAILABLE FOR EXPENSES.

Income of Funds, . . . . .	\$4,515.06	
Gifts, . . . . .	3,362.00	
Rent, . . . . .	700.00	
Sales, . . . . .	500.00	\$9,077.06

PAYMENTS.

Interest on debt, . . . . .	\$363.05	
General expenses, . . . . .	9,541.03	9,904.08
Deficit, . . . . .		<u>\$827.02</u>
In 1903-04 there was a deficit of . . . . .	\$363.11	
The debt of the Botanic Garden and Botanic Museum on		
July 31, 1905 was . . . . .	\$8,088.11	

## GRAY HERBARIUM. (See Table No. XI, page 108.)

## AVAILABLE FOR EXPENSES.

Income of Funds and balance, . . . . .	\$3,478.78	
Asa Gray's copyrights, . . . . .	784.80	
Gifts, . . . . .	4,270.00	
Sales and commissions, . . . . .	<u>2,043.72</u>	\$10,577.80

## PAYMENTS.

Salaries, . . . . .	\$5,700.00	
General expenses, . . . . .	<u>4,984.68</u>	10,684.68
Deficit, . . . . .		<u>\$57.88</u>

In 1903-04 there was a deficit of . . . . . \$960.71

The Gray Herbarium credit balance on July 31, 1905 was \$882.89

## OBSERVATORY. (See Table No. XII, page 109.)

## AVAILABLE FOR EXPENSES.

Income of Funds, . . . . .	\$32,079.80	
Appropriation from Fund for the Advancement of Astro- nomical Science (1902), . . . . .	3,000.00	
Rent, . . . . .	600.00	
Sales, . . . . .	<u>170.77</u>	\$35,850.57

## PAYMENTS.

Salaries, . . . . .	\$16,600.00	
Services, . . . . .	7,289.61	
Interest on debt, . . . . .	272.68	
General expenses, . . . . .	<u>11,701.35</u>	35,863.64
Deficit, . . . . .		<u>\$13.07</u>

In 1903-04 there was a deficit of . . . . . \$2,090.68

The debt of the Observatory on July 31, 1905 was \$5,466.59

## MUSEUM OF COMPARATIVE ZOÖLOGY.

(See Table No. XIII, page 111.)

## AVAILABLE FOR EXPENSES.

Income of Funds and balance, . . . . .	\$30,203.48	
Use of lecture room, . . . . .	700.00	
Sales, . . . . .	175.38	
Repayment, . . . . .	<u>485.19</u>	\$31,564.05

## PAYMENTS.

Salaries, . . . . .	\$8,600.00	
General expenses, . . . . .	<u>22,893.35</u>	
	\$31,493.35	

Less the amount which was paid from College income (see  
Table No. I, page 75), . . . . . 4,080.89 27,412.46

Surplus, . . . . . \$4,151.59

In 1903-04 there was a deficit of . . . . . \$879.67

The Museum of Comparative Zoölogy credit balance on  
July 31, 1905 was . . . . . \$32,306.32



Amount brought forward, . . . . . \$15,896.23

PAYMENTS.

Salaries for instruction, . . . . .	\$8,000.00	
Horticultural Department expenses, . . . . .	1,961.56	
General expenses, . . . . .	7,857.02	17,818.58
Deficit, . . . . .		<u>\$1,422.35</u>
In 1903-04 there was a surplus of . . . . .	\$806.70	
The Bussey Institution credit balance on July 31, 1905 was . . . . .	\$27,143.83	

ARNOLD ARBORETUM. (See Table No. IX, page 107.)

AVAILABLE FOR EXPENSES.

Income of Funds and balance, . . . . .	\$14,771.97	
Gifts, . . . . .	86,846.11	
Sales, . . . . .	1,592.85	\$53,210.93

PAYMENTS.

Salaries, . . . . .	\$3,500.00	
Rent, . . . . .	150.00	
General expenses, . . . . .	19,424.29	
Real estate, . . . . .	20,281.35	43,855.64
Surplus, . . . . .		<u>\$9,855.29</u>
In 1903-04 there was a surplus (from gifts) of . . . . .	\$4,701.04	
The Arboretum Construction Gifts credit balance on July 31, 1905 was . . . . .	\$28,905.81	

BOTANIC GARDEN AND BOTANIC MUSEUM.

(See Table No. X, page 108.)

AVAILABLE FOR EXPENSES.

Income of Funds, . . . . .	\$4,515.06	
Gifts, . . . . .	3,862.00	
Rent, . . . . .	700.00	
Sales, . . . . .	500.00	\$9,077.06

PAYMENTS.

Interest on debt, . . . . .	\$368.05	
General expenses, . . . . .	9,541.03	9,904.08
Deficit, . . . . .		<u>\$827.03</u>
In 1903-04 there was a deficit of . . . . .	\$363.11	
The debt of the Botanic Garden and Botanic Museum on July 31, 1905 was . . . . .	\$8,088.11	

## GRAY HERBARIUM. (See Table No. XI, page 108.)

## AVAILABLE FOR EXPENSES.

Income of Funds and balance, . . . . .	\$3,478.78	
Asa Gray's copyrights, . . . . .	784.80	
Gifts, . . . . .	4,270.00	
Sales and commissions, . . . . .	2,043.72	\$10,577.80

## PAYMENTS.

Salaries, . . . . .	\$5,700.00	
General expenses, . . . . .	4,934.68	10,634.68
Deficit, . . . . .		\$57.88

In 1903-04 there was a deficit of . . . . .	\$960.71
The Gray Herbarium credit balance on July 31, 1905 was	\$882.39

## OBSERVATORY. (See Table No. XII, page 109.)

## AVAILABLE FOR EXPENSES.

Income of Funds, . . . . .	\$32,079.80	
Appropriation from Fund for the Advancement of Astro- nomical Science (1902), . . . . .	3,000.00	
Rent, . . . . .	600.00	
Sales, . . . . .	170.77	\$35,850.57

## PAYMENTS.

Salaries, . . . . .	\$16,600.00	
Services, . . . . .	7,289.61	
Interest on debt, . . . . .	272.68	
General expenses, . . . . .	11,701.85	35,863.64
Deficit, . . . . .		\$13.07

In 1903-04 there was a deficit of . . . . .	\$2,090.68
The debt of the Observatory on July 31, 1905 was . . .	\$5,466.59

## MUSEUM OF COMPARATIVE ZOOLOGY.

(See Table No. XIII, page 111.)

## AVAILABLE FOR EXPENSES.

Income of Funds and balance, . . . . .	\$30,203.48	
Use of lecture room, . . . . .	700.00	
Sales, . . . . .	175.88	
Repayment, . . . . .	485.19	\$31,564.05

## PAYMENTS.

Salaries, . . . . .	\$8,600.00	
General expenses, . . . . .	22,893.35	
	\$31,493.35	

Less the amount which was paid from College income (see Table No. I, page 75), . . . . .	4,080.89	27,412.46
Surplus, . . . . .		\$4,151.59

In 1903-04 there was a deficit of . . . . .	\$879.67
The Museum of Comparative Zoölogy credit balance on July 31, 1905 was . . . . .	\$32,806.32

**PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND  
ETHNOLOGY.**

(See Table No. XIV, page 112.)

**AVAILABLE FOR EXPENSES.**

Income of Funds, . . . . .	\$6,499.12	
Gifts, . . . . .	725.00	
Use of heating plant, . . . . .	<u>75.00</u>	\$7,299.12

**PAYMENTS.**

Salary of Peabody Professor and Curator, . . . . .	\$2,379.97	
Interest on debt, . . . . .	91.87	
General expenses, . . . . .	<u>6,030.10</u>	
	\$8,501.94	
Less the amount which was paid from University income (see Table No. I, page 72), . . . . .	<u>1,263.44</u>	7,238.50
Surplus, which has been applied toward the pay- ment of the debt, . . . . .		<u>\$60.62</u>
In 1903-04 there was a surplus, which was applied toward the payment of the debt, of . . . . .	\$1,081.85	
The debt of the Peabody Museum of American Archae- ology and Ethnology on July 31, 1905 was . . . . .	\$1,981.04	

**SEMITIC MUSEUM. (See Table No. XV, page 113.)**

**AVAILABLE FOR EXPENSES,**

**Nothing.**

**PAYMENTS.**

Salary of Curator, . . . . .	\$500.00	
General expenses, . . . . .	<u>1,090.84</u>	
Deficit, which was paid from University income (see Table No. I, page 72), . . . . .		<u>\$1,590.84</u>
In 1903-04 there was a deficit of . . . . .	\$1,784.84	

**GERMANIC MUSEUM. (See Table No. XVI, page 114.)**

**AVAILABLE FOR EXPENSES.**

Gift, . . . . .	\$150.00
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**PAYMENTS.**

General expenses, . . . . .	<u>1,015.48</u>
Deficit, which was paid from University income (see Table No. I, page 72), . . . . .	<u>\$865.48</u>
In 1903-04 there was a deficit of . . . . .	\$1,042.09

**WILLIAM HAYES FOGG ART MUSEUM.**

(See Table No. XVII, page 114.)

**AVAILABLE FOR EXPENSES.**

Income of Funds and balance, . . . . .	\$2,465.36	
Sales, . . . . .	8.50	\$2,473.86

**PAYMENTS.**

Salary of Curator, . . . . .	\$500.00	
General expenses, . . . . .	4,424.19	
	<u>\$4,924.19</u>	
Less the amount which was paid from University income (see Table No. I, page 72), . . . . .	2,816.99	2,107.20
Surplus, . . . . .		<u>\$366.66</u>
In 1903-04 there was a deficit of . . . . .	\$113.86	
The William Hayes Fogg Art Museum credit balance on July 31, 1905 was . . . . .	\$475.19	

**JEFFERSON PHYSICAL LABORATORY.**

(See Table No. XVIII, page 115.)

**AVAILABLE FOR EXPENSES.**

Income of Funds and balance, . . . . .	\$3,776.00
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**PAYMENTS.**

General expenses, . . . . .	\$4,127.68	
Less the amount which was paid from College income (see Table No. II, page 75), . . . . .	690.22	3,437.46
Surplus, . . . . .		<u>\$338.54</u>
In 1903-04 there was a deficit of . . . . .	\$429.03	
The Jefferson Physical Laboratory credit balance on July 31, 1905 was . . . . .	\$2,087.04	

**APPLETON CHAPEL. (See Table No. XIX, page 116.)****AVAILABLE FOR EXPENSES.**

Income of Funds, . . . . .	\$2,510.87
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**PAYMENTS.**

Preaching and morning services, . . . . .	\$3,258.50	
Salaries of administrator, organist, and choir-master, . . . . .	2,200.00	
General expenses, . . . . .	3,477.57	8,936.07
Deficit, which was paid from University income (see Table No. 1, page 72), . . . . .		<u>\$6,425.20</u>
In 1903-04 there was a deficit of . . . . .	\$5,992.96	

**PHILLIPS BROOKS HOUSE. (See Table No. XX, page 117.)**

**AVAILABLE FOR EXPENSES.**

Income of Funds, . . . . .	\$739.90	
Gifts, . . . . .	750.00	\$1,489.90

**PAYMENTS.**

Salary of Secretary, . . . . .	\$850.00	
General expenses, . . . . .	2,762.90	3,612.90

Deficit, which was paid from University income

(see Table No. I, page 72), . . . . . \$2,123.00

In 1903-04 there was a deficit of . . . . . \$1,702.61

**HEMENWAY GYMNASIUM. (See Table No. XXI, page 118.)**

**AVAILABLE FOR EXPENSES.**

Fees for the use of the Gymnasium, . . . . .	\$86.43	
Fees for the use of Gymnasium lockers, . . . . .	3,156.00	\$3,242.43

**PAYMENTS.**

Salaries, . . . . .	\$4,700.00	
General expenses, . . . . .	7,926.02	
	<u>\$12,626.02</u>	

Less the following items :—

Amount paid from Divinity School income

(see Table No. IV, page 96), . . . . . \$108.12

Amount paid from Law School income (see

Table No. V, page 98), . . . . . 1,905.88      2,014.00      10,612.02

Deficit, which was paid from College income (see

Table No. II, page 75), . . . . . \$7,369.59

In 1903-04 there was a deficit of . . . . . \$5,062.24

**STILLMAN INFIRMARY. (See Table No. XXII, page 118.)**

**AVAILABLE FOR EXPENSES.**

Income of Funds, . . . . .	\$4,060.37	
Annual fees, . . . . .	14,860.00	
Receipts from patients, . . . . .	5,752.32	\$24,672.69

**PAYMENTS.**

Services — administration, nursing, etc., . . . . .	\$5,488.11	
Other expenses, . . . . .	12,811.28	18,299.39
Surplus, . . . . .		<u>\$6,373.80</u>

In 1903-04 there was a deficit of . . . . . \$1,331.31

*Gifts have been received during the year as follows: —*

**GIFTS TO FORM NEW FUNDS OR TO INCREASE OLD ONES.**

From the estate of Richard W. Foster, \$12,500, one-half of his unrestricted bequest.

From these friends and lovers of Edward William Hooper, \$25,000, for founding a Fellowship in his name: —

Henry Adams.

W. S. Bigelow.

Charles F. Folsom.

John C. Gray.

F. L. Higginson.

H. L. Higginson.

Thornton K. Lothrop.

H. P. Walcott.

From the Trustee under the will of George H. Emerson, \$1,350.77 in cash, and securities valued at \$4,511.99, on account of the principal of Mr. Emerson's residuary bequest, the income thereof to be used for four scholarships for regular graduates of the Departments of Zoölogy, Geology, Mineralogy, and Chemistry in the Lawrence Scientific School.

From the Harvard Club of Philadelphia, \$550, to be added to the endowment of "The Philadelphia Scholarship."

From the estate of Mrs. Sarah Wyman Whitman, her bequest of \$10,000, "for the maintenance of a scholarship in history, to be known as the Charles Wyman Scholarship."

From the estate of Daniel A. Buckley, \$8,685.52 in cash, and real estate valued at \$47,201. The income of this property is to be used toward the support, education, and maintenance in Harvard University of needy and meritorious graduates of public, non-sectarian schools in the City of Cambridge.

From the estate of Lucy Ellis, \$2,399.37, the United States legacy tax refunded, on account of her residuary bequest.

From the estate of Edwin A. W. Harlow, \$1607.57, on account of his residuary bequest "for assisting poor young men of excellent moral character in the Academic Department."

From the estate of Philo Sherman Bennett, \$400, to establish a prize "for the best essay discussing the principles of free government."

From the Class of 1888, \$2,700, for establishing the Lloyd McKim Garrison Prize and Medal Fund, from the income of which a cash prize of \$100 and a silver medal "are to be

awarded in each College year to the writer of the best poem on a subject or subjects annually to be chosen and announced by a committee of the English Department."

From the estate of Edward W. Codman, \$11,674.84 in cash, and real estate and securities valued at \$309,687.06, on account of his residuary bequest "for uses connected with the Academic Department."

For the Teachers' Endowment Fund, \$736,225.28, from more than seventeen hundred contributors.

From members of the Class of 1880, including temporary members and the families of members of the Class who are not now living, on the twenty-fifth anniversary of their graduation, \$100,000, "to be held by the Corporation as a permanent and distinct fund, — known as the 'Class of 1880 Fund,' — the income of which shall be yearly devoted to such purposes and uses for the benefit of Harvard College as may be yearly determined by the President and Fellows." No restriction is imposed upon the Corporation as to the disposition of the income, but a preference is expressed "that it may be used to increase the compensation of the teachers of the College."

From Mrs. Walter Channing Cabot, Henry Bromfield Cabot, Mrs. Robert Treat Paine, 2d, Mrs. Ralph Emerson Forbes, Walter Mason Cabot, and Mrs. Henry Dwight Sedgwick, \$50,000, to establish the Walter Channing Cabot Fund or Fellowship, "the income thereof to be applied in payments to professors or instructors in the general field of literature, history, or art, as such terms may be liberally interpreted."

From the Class of 1885, \$172.50, to be added to the Class Subscription Fund.

From an anonymous giver, \$100,000, to establish "The Francis Greenwood Peabody Endowment" for the encouragement of the Studies of the Ethics of the Social Questions.

From William M. Spackman, \$2,500, for unrestricted use in the College.

From the estate of Jerome Wheelock, \$10, the second payment of that amount, for establishing the Jerome Wheelock Fund of \$100,000.

From the Class of 1846, its class fund of \$10,571.07, to be held as "The Fund of the Class of 1846" until the death of

the last surviving member of the Class, and then to be transferred and added to the Francis James Child Memorial Fund.

From Frederick Le Roy Sargent, \$50, to be added to the Francis James Child Memorial Fund.

From the Committee which collected the money from the subscribers, \$8,500, for a book fund in honor of Professor Charles Eliot Norton, the income thereof to be "devoted to the purchase of such books as Professor Norton may suggest."

From James Barr Ames, \$500, "to be applied, under the direction of the Dean of the Law School, for the benefit of law students who are in need of pecuniary aid and who by reason of their character, capacity and health promise to be efficient and influential members of the community in which they live."

From an anonymous giver, \$5,000, to establish a fund, the income of which "shall be payable every year to such meritorious and needy students in the Harvard Medical School as shall be recommended by the Administrative Board of the Medical School."

From Mrs. Arthur W. Blake, \$500, to be added to the F. B. Greenough Fund for Surgical Research.

From George B. Shattuck, \$1,000, to be added to the Shattuck Professorship of Pathological Anatomy.

For the Arnold Arboretum Fund, from

Caleb Chase . . . . .	\$100
Robert H. Gardiner . . . . .	25
B. F. Keith . . . . .	110
Massachusetts Society for Promoting Agriculture . .	500
A. Shuman . . . . .	100
	<hr/> \$835

From an anonymous giver, \$1,000, to be added to the Fund for the Advancement of Astronomical Science (1902).

*The total amount of these gifts for capital account is \$1,455,131.97, as is also stated on page 44 of this report.*

#### GIFTS FOR IMMEDIATE USE.

From several recently graduated College classes, \$24.47, the final payment toward the cost of the fence built for the purpose of insuring better control of the College Yard on Commencement Day.



From an anonymous giver, \$150, to provide for opening the Germanic Museum on Sunday and Thursday afternoons.

From an anonymous giver, \$750, to be used, under the direction of Professor Peabody, in connection with the Phillips Brooks House.

From James DeNormandie, \$20, an unrestricted gift.

From the Harvard Club of Western Pennsylvania, \$31 additional, toward the expenses of the Harvard University exhibit at the St. Louis Exposition.

From Jacob H. Schiff, \$5,000, to pay for preliminary expenses in connection with excavations in Palestine, which are to be made during a term of five years under the auspices of the Semitic Museum, at a total outlay of \$50,000, which Mr. Schiff has offered to give.

From James H. Hyde, \$500, for the Fellowship of the Cercle Français de l'Université Harvard; and \$55.01 for the French Department Library.

From Charles F. McKim, \$1,000, for the Julia Amory Appleton Travelling Fellowship in Architecture for 1904-05.

For the South End House Fellowship, from

Julian L. Coolidge . . . . .	\$100
William A. Dupee . . . . .	25
Edward W. Grew . . . . .	25
Randolph C. Grew . . . . .	100
Edward J. Holmes . . . . .	100
Herbert Lyman . . . . .	20
	<hr/>
	\$370

From an anonymous giver, \$350, for the Ricardo Prize Scholarship for 1905-06.

From an anonymous giver, \$100, to be used in the same way as the income of Scholarship funds is used.

From Mrs. C. M. Barnard, \$600, her twenty-second yearly gift for the Warren H. Cudworth Scholarships.

From the Harvard Club of Buffalo, \$200, for the Scholarship of the Harvard Club of Buffalo.

From the Harvard Club of Chicago, \$300, for the Scholarship of the Harvard Club of Chicago for 1904-05.

From the Harvard Club of Louisiana, \$266.30, for the Scholarship of the Harvard Club of Louisiana for 1904-05.

From the Harvard Club of St. Louis, \$300, for the Scholarship of the Harvard Club of St. Louis for 1904-05.

From the Harvard Club of San Francisco, \$300, for the Scholarship of the Harvard Club of San Francisco for 1904-05.

From the Lawrence Scientific School Association, \$150, for a scholarship in the Summer Course, Mining 12, for 1905.

Through George P. Baker, \$25, for a prize in English 18.

From Philippe Belknap Marcou, \$50, for a prize for French composition, to be called the Jeremy Belknap Prize, as a memorial to Dr. Jeremy Belknap of the Class of 1762.

From an anonymous giver, \$250, for the salary of an Assistant in Physics.

From Samuel Cabot, \$212, for a salary in the Division of Chemistry.

From Elliot C. Lee, \$200, toward the salary of an Instructor in Anthropology for 1904-05.

From Theodore Lyman, \$150, for the salary of an Assistant in Physics for 1904-05.

From Edward D. Pearce, \$100, an addition to the salary of an Instructor in the College.

Toward the expenses and salary of an Instructor to accompany the class in Mining 12 on an excursion through the South, and for the general welfare of the Department of Mining and Metallurgy, from

E. C. Felton . . . . .	\$50
Hennen Jennings . . . . .	50
R. A. F. Penrose . . . . .	50
C. P. Perin . . . . .	50
Q. A. Shaw, Jr. . . . .	50
Frank H. Taylor . . . . .	50
B. B. Thayer . . . . .	50
	<u>\$350</u>

Toward the salary for 1904-05 and 1905-06 of an Instructor in the Department of Zoölogy, from

William Brewster . . . . .	\$25	Amount brought forward . .	\$800
Louis Cabot . . . . .	100	Miss Amy Lowell . . . . .	200
Arthur A. Carey . . . . .	375	James L. Paine . . . . .	25
A friend . . . . .	25	Dudley L. Pickman . . . . .	50
Augustus Hemenway . . . . .	200	William H. Slocum . . . . .	25
Samuel Hill . . . . .	50	George R. White . . . . .	25
C. W. Hubbard . . . . .	25		<u>\$1,125</u>
Amount carried forward . .	<u>\$800</u>		

From Gardiner M. Lane, his second gift of \$1,000, for lectures to be given, under the auspices of the Department of the Classics, by some well known scholar or literary man from abroad.

From an anonymous giver, \$200, toward the establishment and equipment of a meteorological observatory for the use of the Department of Geology and Geography.

From an anonymous giver, \$5,000, to be expended under the direction of Professor Peabody for the Department of the Ethics of the Social Questions.

From a friend of the Mineralogical Museum, \$100, toward the cost of obtaining certain exhibits at the St. Louis exposition.

From Sir John Murray, \$100, for a collection of deep sea deposits for the Department of Geology and Geography.

For the use of the Museum of Classical Archaeology, from

W. A. Gardner . . . . .	\$100
Gardiner M. Lane . . . . .	100
	<u>\$200</u>

From James Sturgis Pray, \$5.40, toward expenses in the Department of Landscape Architecture.

For the School for Social Workers, from

William S. Bigelow . . . . .	\$2,000
Henry L. Higginson . . . . .	2,000
Joseph Lee . . . . .	2,000
	<u>\$6,000</u>

From Henry L. Shattuck, \$600, an unrestricted gift for the general expenses of the Undergraduate Department of Harvard College.

For the Bermuda Biological Station for Research, from

Augustus Hemenway . . . . .	\$100
Theodore Lyman . . . . .	200
John C. Phillips . . . . .	300
James F. Porter . . . . .	50
John E. Thayer . . . . .	500
Robert Willson . . . . .	50
	<u>\$1,200</u>

From Dudley L. Pickman, \$50, for the purchase of extra copies of the contributions from the Zoölogical Laboratory.

For the improvement of Hollis and Stoughton Halls, from

Gordon Abbott . . . . .	\$200	Amount brought forward . .	\$4,285
Robert Bacon . . . . .	1,000	B. S. Hurlbut . . . . .	15
Walter C. Baylies . . . . .	200	A. Lawrence Lowell . . . . .	100
Thomas P. Beal . . . . .	100	J. P. Morgan, Jr. . . . .	500
Shepherd Brooks . . . . .	500	Neal Rantoul . . . . .	100
T. Jefferson Coolidge, Jr. . . . .	500	Frank Graham Thomson . . . .	500
Frederic Cunningham . . . . .	10	C. M. Weld . . . . .	100
William Endicott, Jr. . . . .	500	Stephen M. Weld . . . . .	200
Frederick P. Fish . . . . .	200	Edward F. Whitney . . . . .	500
John C. Gray . . . . .	50	George Wigglesworth . . . . .	1,000
Augustus Hemenway . . . . .	1,000	Robert Winsor . . . . .	1,000
F. L. Higginson, Jr. . . . .	25		<u>\$8,800</u>
Amount carried forward . .	\$4,285		

From J. J. Higginson, \$1,500, for the enlargement of the estate at Squam Lake.

From J. J. Storrow, \$1,000, for use at the summer camp at Squam Lake.

From Mr. Humphrey O'Sullivan, \$50, for special use in connection with the summer camp at Squam Lake.

For building Emerson Hall, from

Mrs. Louis Cabot . . . . .	\$100
Miss M. W. Calkins . . . . .	25
James J. Storrow . . . . .	100
Mr. and Mrs. Nelson Robinson . . . . .	5,000
	<u>\$5,225</u>

From an anonymous giver, \$13,000, "for furnishings of the Department of Social Ethics in Emerson Hall."

From Mr. and Mrs. Nelson Robinson, \$22,500, toward furnishing Emerson Hall, and for additions to the equipment of the Psychological Laboratory.

For the Botanic Garden and Botanic Museum, from

Oliver Ames . . . . .	\$500
Anonymous . . . . .	500
Anonymous . . . . .	500
Edwin F. Atkins . . . . .	600
William A. Bancroft . . . . .	50
Arthur F. Estabrook . . . . .	1,000
Miss Mary Lee Ware . . . . .	212
	<u>\$3,362</u>

From Nathaniel C. Nash, \$2,186.34, for alterations in the N. C. Nash Botanical Lecture Room in the University Museum.

## For the Gray Herbarium, from

R. L. Agassiz . . . . .	\$10	Amount brought forward . .	\$995
James Barr Ames . . . . .	10	Francis B. Forbes . . . . .	25
Miss Mary S. Ames . . . . .	25	Mrs. William H. Forbes . . . .	5
Mrs. Oliver Ames . . . . .	100	Francis A. Foster . . . . .	10
Anonymous . . . . .	100	Francis C. Foster . . . . .	10
Anonymous . . . . .	150	Mrs. Francis C. Foster . . . .	10
Anonymous . . . . .	25	Miss Harriet E. Freeman . . .	10
Howard Payson Arnold . . . .	25	Miss C. A. French . . . . .	10
Edwin F. Atkins . . . . .	25	A friend . . . . .	25
Miss Mary F. Bartlett . . . .	25	Robert H. Gardiner . . . . .	10
Walter C. Baylies . . . . .	10	George A. Goddard . . . . .	10
Thomas P. Beal . . . . .	10	Miss A. M. Goodwin . . . . .	10
A. C. Bent . . . . .	10	Mrs. Henry S. Grew . . . . .	10
Mrs. Arthur W. Blake . . . .	10	George W. Hammond . . . . .	10
William P. Blake . . . . .	10	Mrs. George W. Hammond . .	10
Miss Mary E. Blatchford . . .	5	E. B. Haskell . . . . .	5
James C. Braman . . . . .	5	Augustus Hemenway . . . . .	10
Mrs. J. L. Bremer . . . . .	10	Mrs. A. Hemenway . . . . .	10
Edward M. Brewer . . . . .	10	Miss Clara Hemenway . . . .	10
William Brewster . . . . .	10	Miss Annie P. Henchman . . .	10
Addison Brown . . . . .	10	J. P. B. Henshaw . . . . .	10
Harold Haskell Brown . . . .	10	Robert C. Hooper . . . . .	10
Stephen Bullard . . . . .	10	Miss Katharine Horsford . . .	25
Allston Burr . . . . .	25	Clement S. Houghton . . . .	10
Mrs. Charles P. Cheney . . . .	10	Henry S. Howe . . . . .	10
Charles F. Choate . . . . .	10	Charles W. Hubbard . . . . .	10
Miss Helen Collamore . . . .	10	Henry S. Hunnewell . . . . .	10
George G. Crocker . . . . .	10	Walter Hunnewell . . . . .	10
Mrs. C. A. Cummings . . . .	10	Bernard Jenney . . . . .	10
Charles P. Curtis . . . . .	10	Edward C. Johnson . . . . .	10
Henry P. Curtis . . . . .	10	G. G. Kennedy . . . . .	500
Mrs. J. F. Curtis . . . . .	10	David P. Kimball . . . . .	10
Louis Curtis . . . . .	10	Mrs. David P. Kimball . . . .	10
Mrs. Abram E. Cutter . . . .	10	Henry H. Kimball . . . . .	10
Samuel B. Dana . . . . .	10	Lemuel C. Kimball, Jr. . . . .	10
Frank A. Day . . . . .	25	George C. Lee . . . . .	10
Walter Deane . . . . .	15	J. R. Leeson . . . . .	250
George B. Dorr . . . . .	10	George V. Leverett . . . . .	25
Mrs. Samuel Eliot . . . . .	10	Mrs. George Linder . . . . .	10
Mrs. J. W. Elliot . . . . .	10	Mrs. Mary E. Lodge . . . . .	15
William Endicott . . . . .	10	Augustus P. Loring . . . . .	10
William Endicott, Jr. . . . .	25	Mrs. Augustus P. Loring . . .	10
A. F. Estabrook . . . . .	100	Miss Katharine P. Loring . . .	10
D. B. Fay . . . . .	10	Miss Louisa P. Loring . . . .	10
J. S. Fay, Jr. . . . .	10	William Caleb Loring . . . . .	10
Mrs. J. N. Fiske . . . . .	10	Arthur T. Lyman . . . . .	10
Miss Amy Folsom . . . . .	10	Haslett McKim . . . . .	10
Amount carried forward . . .	\$995	Amount carried forward . . .	\$2,240

Amount brought forward . . .	\$2,240	Amount brought forward . . .	\$3,090
Miss E. F. Mason . . . . .	10	Mrs. K. W. Sears . . . . .	10
Charles Merriam . . . . .	10	Francis Shaw . . . . .	10
Miss Susan Minns . . . . .	25	Mrs. G. H. Shaw . . . . .	10
Albert Hanford Moore . . . . .	10	David N. Skillings . . . . .	10
Mrs. S. T. Morse . . . . .	10	Francis Skinner . . . . .	50
William A. Munroe . . . . .	10	Francis Skinner, Jr. . . . .	10
Grenville H. Norcross . . . . .	10	F. P. Sprague . . . . .	10
Mrs. Otis Norcross . . . . .	10	Robert H. Stevenson . . . . .	10
Mrs. Otis Norcross, Jr. . . . .	10	Nathaniel H. Stone . . . . .	10
Peder Olsen . . . . .	20	Charles H. Taylor, Jr. . . . .	10
Mrs. Henrietta Page . . . . .	25	John E. Thayer . . . . .	100
Charles W. Parker . . . . .	10	Miss Helen W. Tinkham . . . . .	10
Frank E. Peabody . . . . .	10	Charles H. Tweed . . . . .	10
F. H. Peabody . . . . .	500	B. Vaughan . . . . .	10
Miss M. R. Peabody . . . . .	10	Miss Caroline E. Ward . . . . .	10
Mrs. J. C. Phillips . . . . .	25	Miss Cornelia Warren . . . . .	10
Henry Pickering . . . . .	10	Benjamin M. Watson . . . . .	10
Mrs. Henry Pickering . . . . .	10	F. G. Webster . . . . .	20
Mrs. Dudley L. Pickman . . . . .	10	Mrs. F. G. Webster . . . . .	20
David Pingree . . . . .	10	Mrs. Charles W. Welch . . . . .	10
Miss Elizabeth C. Putnam . . . . .	5	Mrs. Charles T. White . . . . .	10
Miss Sarah E. Read . . . . .	10	George R. White . . . . .	500
Mrs. William Howell Reed . . . . .	10	S. B. Whiting . . . . .	10
George E. Richards . . . . .	10	George Wigglesworth . . . . .	10
S. W. Rodman . . . . .	10	Emile F. Williams . . . . .	100
Denman W. Ross . . . . .	10	John D. Williams . . . . .	20
Mrs. M. Denman Ross . . . . .	10	Moses Williams . . . . .	50
Mrs. Waldo O. Ross . . . . .	10	Ralph B. Williams . . . . .	100
J. E. Rothwell . . . . .	10	Mrs. Charlotte F. Woodman . . . . .	10
Timothy T. Sawyer . . . . .	10	Miss Mary Woodman . . . . .	10
George O. Sears . . . . .	10	John G. Wright . . . . .	10
Amount carried forward . . .	\$3,090		\$4,270

### For the purchase of books for the College Library, from

John G. Ames, for books from the Rowfant library . . .	\$100
Winthrop Ames, for the theatrical collection . . . . .	500
George Gardner Amory, for books in English literature of the seventeenth and eighteenth centuries . . . . .	25
Anonymous . . . . .	23
Mrs. John C. Bancroft, for books on Japan . . . . .	250
Hiram Bingham, for books on South America . . . . .	4.95
Lawrence Smith Butler, for books on Paris . . . . .	50
Archibald Cary Coolidge . . . . .	579.62
Alexander Cumming, for Spanish periodicals . . . . .	8
W. Bayard Cutting, Jr., for books on Florentine History . . . . .	100
W. Bayard Cutting, Jr. . . . .	20
Ellis L. Dresel, for German Drama . . . . .	50
George Duncan, for books on Scottish history . . . . .	50
Amount carried forward . . . . .	\$1,760.57

Amount brought forward . . . . .	\$1,760.57
Allan Forbes, for books on Scottish history . . . . .	10
E. H. Gay, for books in English literature of the seven- teenth and eighteenth centuries . . . . .	10
H. H. Hunnewell, for books from the Rowfant library	25
James Loeb, for publications of Labor Unions . . . . .	100
Arthur T. Lyman, for books on the older literature of political economy . . . . .	50
Edwin Stanton Mullins, for books on folk-lore . . . . .	50
William Phillips, for books, maps, etc., on London . . . .	100
Francis Skinner, for books on Venice and Northern Italy	1,000
John Harvey Treat, for books on the Catacombs and Christian Antiquities of Italy . . . . .	300
Lucius C. Tuckerman, for books on the Republic of Mexico . . . . .	50
H. E. Ware, for books on folk-lore . . . . .	25
Alain C. White, for books for the Dante collection, or other books . . . . .	250
	<u>\$3,730.57</u>

From Mrs. George A. Nickerson, \$200, her second yearly gift in memory of her husband, George Augustus Nickerson, A.B. 1876, LL.B. 1879, for the purchase of books on folk-lore, for the College Library.

For the Classical Library, from

William Amory Gardner . . . . .	\$100
Gardiner M. Lane . . . . .	100
	<u>\$200</u>

From the Cercle Français of Harvard University, \$100, for the purchase of books for the French Department Library.

From the Department of Mathematics, \$15, for the purchase of books for the library of that Department.

From H. G. Curtis, \$26.21, for negatives from the reverse sides of a series of medals, which were previously given by him.

From Archibald Cary Coolidge, \$986, for the services of an assistant in the College Library.

From K. G. T. Webster, \$75, to cover the expense of keeping the libraries in Warren House open in the evening from April first to the end of the term.

From William Amory Gardner, his third gift of \$10,000 toward the construction of a new University Library Building.

From the Society for Promoting Theological Education, \$2,124.01, for the Library of the Divinity School.

**For the Medical School Undertaking, from**

J. Pierpont Morgan, \$486,000, on account of his offer for the erection of three Memorial Halls.

Mrs. Collis P. Huntington, \$147,913, the final payment on account of her offer of \$250,000 for the erection of the Collis P. Huntington Laboratory.

David Sears, \$45,000, the final payment on account of his offer of \$250,000 for the erection of one of the buildings.

Through Thomas Dwight, \$525, for defraying expenses connected with original investigation in the Department of Anatomy.

From W. H. Walker, \$825, to be spent under the direction of Professor Harold C. Ernst for the Bacteriological Laboratory.

For salaries in the Department of Biological Chemistry, from

Arthur T. Cabot . . . . .	\$1,000
Augustus Hemenway . . . . .	1,000
	<u>\$2,000</u>

From an anonymous giver, \$100, for use in connection with the income of the Caroline Brewer Croft Fund.

From an anonymous giver, \$250, for the salary of a secretary for the Caroline Brewer Croft cancer committee.

From Charles S. Minot, \$50, toward the expenses of the Embryological Laboratory.

From Miss Katherine E. Bullard and William N. Bullard, \$500 each, their third gifts of the same amount, to be used under the direction of the Shattuck Professor of Pathological Anatomy, with the approval of the President and Fellows, for the purpose of advancing the knowledge of the pathology of the nervous system.

From James J. Putnam and Moorfield Storey, trustees, \$500, for a salary and expenses in the Department of Neuropathology.

From an anonymous giver, \$500, as a memorial to the late Henry W. Jackson, of Brookline, for special use in the Department of Pathology.

From G. K. Sabine, \$500, for special use in the Department of Pathology.

From Henry F. Sears, \$500, to be added to his previous gifts for the Library of the Pathological Department.



From Morrill Wyman, \$1,000, to aid research in the Department of Pathology.

From members of the Department of Physiology, \$50, for use in that department.

For the Surgical Laboratory, from

John S. Ames . . . . .	\$1,000
George Baty Blake . . . . .	100
	<u>\$1,100</u>

From Robert Winsor, \$5,000, for the payment of a salary in the Medical School.

For the purchase of land, the erection of buildings, or the endowment of education and research, for the benefit of the Dental School, from

Francis Bartlett . . . . .	\$1,000
Miss Mary E. Emery and sisters . . . . .	100
Mr. and Mrs. Robert C. Hooper . . . . .	500
Frank E. Simpson . . . . .	1,000
Charles A. Welsh . . . . .	100
	<u>\$2,700</u>

For the Peabody Museum of American Archeology and Ethnology, from

A friend . . . . .	\$100
A friend . . . . .	100
Mrs. N. E. Baylies . . . . .	25
Clarence B. Moore . . . . .	500
	<u>\$725</u>

From an anonymous giver, \$377.17, to be added to the income of the Fund for the Advancement of Astronomical Science (1902).

From Mrs. Henry Draper, of New York, an additional sum of \$10,000, to be expended by the Director of the Observatory in prosecuting the researches in the photography of stellar spectra, with which the late Dr. Henry Draper's name is honorably associated.

From Miss Abby A. Bradley, \$600, to be added to the income of the William L. Bradley Fund.

From the Massachusetts Society for Promoting Agriculture, \$2,000, "to be expended at the Arnold Arboretum by the Director, to increase the knowledge of trees."

From Francis Skinner, \$5,000, for the purchase of books for the Arnold Arboretum.

For the purchase of about 40,000 square feet of land and the building thereon at the corner of Centre and Orchard Streets, in West Roxbury, and for construction expenses, for the Arnold Arboretum, from

Miss Mary S. Ames . . . . .	\$5,000	Amount brought forward	\$18,850
Shepherd Brooks . . . . .	400	James M. Prendergast . . .	100
Samuel Carr . . . . .	250	N. W. Rice . . . . .	500
E. S. C. . . . .	200	Reginald C. Robbins . . .	250
Mr. and Mrs. J. M. Codman .	500	Mr. and Mrs. F. W Sargent	500
Zenas Crane . . . . .	500	Mrs. J. M. Sears . . . . .	1,000
George G. Crocker . . . . .	50	Mr. and Mrs. R. G. Shaw .	500
A. F. Estabrook . . . . .	1,000	W. S. Spaulding . . . . .	1,000
R. D. Evans . . . . .	1,000	Stone & Webster . . . . .	1,000
G. F. Fabyan . . . . .	500	C. H. Taylor . . . . .	500
Miss Sarah B. Fay . . . . .	500	E. V. R. Thayer . . . . .	1,000
Eugene N. Foss . . . . .	500	John E. Thayer . . . . .	1,000
A. Hemenway . . . . .	500	N. Thayer . . . . .	1,000
H. S. Hunnewell . . . . .	2,000	S. D. Warren . . . . .	500
Walter Hunnewell . . . . .	1,000	Mr. and Mrs. F. G. Webster	2,000
Gardiner M. Lane . . . . .	250	L. J. Webster . . . . .	500
Mr. and Mrs. Guy Lowell . .	100	S. M. Weld . . . . .	2,000
Charles Merriam . . . . .	500	Henry M. Whitney . . . .	1,000
F. S. Moseley . . . . .	2,000	Robert Winsor . . . . .	1,000
William E. Palmer . . . . .	500	William M. Wood . . . . .	500
Mr. and Mrs. Dudley L. Pickman	1,000		\$34,700
Wallace L. Pierce . . . . .	100	Interest . . . . .	146.11
David Pingree . . . . .	500		\$34,846.11
Amount carried forward . .	\$18,850		

From the Committee on the Regulation of Athletic Sports, \$20,000, to be added to its previous gifts for improvements upon, and additions to, The Soldier's Field, to be made by said Committee, with the approval of the Corporation.

*The total amount of these gifts for immediate use is \$875,295.59, as is also stated on page 42 of this report.*

CHARLES F. ADAMS, 2D, *Treasurer.*

Boston, October 31, 1905.

*General Statement of Receipts and Disbursements  
for the year ending*

**INCOME.**

Interest on notes, mortgages, advances, &c., . . . . .		112,213.54
Interest on Policies of Mass. Hospital Life Insurance Co., . . . .		849.00
Interest on Bank Deposits.		
Deposit in Adams Trust Co., . . . . .	\$959.47	
"    City Trust Co., . . . . .	82.60	
"    Equitable Trust Co., . . . . .	1,369.35	
"    Merchants National Bank, . . . . .	35.73	
"    National Shawmut Bank, . . . . .	145.21	
"    National Union Bank, . . . . .	363.39	
"    Old Boston National Bank, . . . . .	1,894.01	4,849.76
Interest on Public Funds (after deducting \$182.39 for sinking premiums).		
Massachusetts 3½'s of 1913, . . . . .	\$1,185.25	
"    "    "    1916, . . . . .	154.15	
"    "    "    1935, . . . . .	132.38	
"    "    "    1938, . . . . .	99.48	
City of Boston 3½'s, . . . . .	350.00	
United States of Mexico 4's, . . . . .	2,000.00	3,921.21
Interest on Railroad Bonds (after deducting \$6,571.15 for sinking premiums).		
Baltimore & Ohio 4's, . . . . .	\$4,000.00	
"    "    (P. L. E. & W. V. system) Ref. 4's, . . . . .	4,000.00	
"    "    So. Western 3½'s, . . . . .	3,500.00	
Bangor & Aroostook Ref. 4's, . . . . .	5,000.00	
Boston & Northern 4's, . . . . .	4,150.00	
Burlington & Mo. River in Neb. 6's, . . . . .	13,535.99	
Central Vermont 4's, . . . . .	1,740.00	
Chicago & Alton 4's, . . . . .	4,000.00	
Chicago, Burlington & Quincy 4's, . . . . .	120.00	
"    "    "    Ill. Div. 4's, . . . . .	7,977.78	
"    "    "    3½'s, . . . . .	15,243.80	
Chicago & No. Western Gen. M. 3½'s, . . . . .	3,488.23	
"    "    Madison Extension 7's, . . . . .	5,255.46	
Chicago, Rock Island & Pacific 4's, . . . . .	3,920.90	
Chicago Terminal Transfer 4's, . . . . .	2,000.00	
Eastern 6's, . . . . .	9,270.00	
Eastern sterling 6's, . . . . .	5,739.76	
Fort Scott, So. E. & Memphis 7's, . . . . .	875.00	
Indiana, Illinois & Iowa 4's, . . . . .	4,000.00	
Kansas City, Fort Scott & Memphis 6's, . . . . .	9,060.56	
Kansas City, Memphis & Birmingham Income 5's, . . . . .	5,700.00	
Kansas & Missouri 5's, . . . . .	2,700.00	
Lake Shore & Michigan Southern 4's, . . . . .	4,000.00	
Long Island Unified 4's, . . . . .	12,000.00	
Amounts carried forward, . . . . .	\$131,277.48	\$121,833.51

*of the Treasurer of Harvard College,  
July 31, 1905.*

## EXPENSES.

**Paid to account of expenses in the**

**University, as per Table I (page 72).**

Salaries, . . . . .	\$45,841.02	
Retiring Allowances, . . . . .	22,990.11	
Peabody Museum of American Archaeology and Ethnology (part, see Table XIV, page 112),	1,263.44	
Semitic Museum (part, see Table XV, page 113),	1,590.84	
Germanic Museum (part, see Table XVI, p. 114),	865.48	
William Hayes Fogg Art Museum (part, see Table XVII, page 114), . . . . .	2,816.99	
Appleton Chapel (part, see Table XIX, page 116),	6,425.20	
Phillips Brooks House (part, see Table XX, (page 117), . . . . .	2,123.00	
Other expenses, . . . . .	49,598.73	\$133,014.81

**College, as per Table II (page 75).**

Salaries for instruction, . . . . .	\$408,887.99	
Sundry salaries, . . . . .	13,979.60	
Expenses on College Public Buildings, which are not valued in the Treasurer's books and which are not separately entered in this table, . .	40,013.86	
Expenses on College Dormitories, which are not valued in the Treasurer's books, . . . . .	48,639.79	
General expenses, . . . . .	72,956.21	
Fellowships, . . . . .	28,012.50	
Scholarships, . . . . .	52,253.65	
Exhibitions, . . . . .	30,327.79	
Prizes and expenses, . . . . .	2,862.47	
Museum of Comparative Zoölogy (part, see Table XIII, page 111), . . . . .	4,080.89	
Jefferson Physical Laboratory (part, see Table XVIII, page 115), . . . . .	690.22	
Hemenway Gymnasium (part, see Table XXI, page 118), . . . . .	7,869.59	
Summer Schools, . . . . .	20,840.97	
Books, from special Funds and gifts, . . . .	2,125.79	
Apparatus and expenses for research, from special Funds and gifts, . . . . .	2,357.64	
Publication expenses, from special Funds and gifts, . . . . .	4,904.16	
Sundry payments from special Funds and gifts,	15,200.74	
Appropriations for collections and laboratories,	33,126.90	788,630.26

**Library, as per Table III (page 96).**

Salaries, . . . . .	\$14,150.00	
Services and wages, . . . . .	20,574.19	
Books, . . . . .	22,397.46	
Other expenses, . . . . .	10,595.41	67,717.06
Amount carried forward, . . . . .		\$989,362.13

*General Statement of Receipts and Disbursements  
for the year ending*

**INCOME (continued).**

Amounts brought forward, . . . \$131,277.48    \$121,833.51

**Interest on Railroad Bonds (continued).**

Louisville & Jeffersonville Bridge 4's, . . . . .	8,000.00	
Massachusetts Electric Co's. 4½'s, . . . . .	4,012.50	
Metropolitan West Side Elevated 4's, . . . . .	4,000.00	
"        "        "        Extension 4's, . . . . .	4,200.00	
Minneapolis Union 5's, . . . . .	4,866.83	
Missouri Pacific 5's, . . . . .	4,986.11	
New York Central & H. R. 3½'s (L. S. & M. S. Coll.), . . . . .	10,500.00	
New York Central & H. R. 3½'s (M. C. Coll.), . . . . .	1,190.00	
New York, New Haven & Hartford 4's, . . . . .	11.11	
New York, Ontario & Western 4's, . . . . .	7,884.13	
Northern Pacific—Great Northern Joint 4's, . . . . .	18,140.00	
Old Colony Street 5's, . . . . .	4,150.00	
Oregon Short Line 5's, . . . . .	4,583.08	
Pennsylvania Co. 3½'s, . . . . .	2,992.50	
Pennsylvania Co. 4½'s, . . . . .	4,806.25	
Rutland Car Trust 4½'s, . . . . .	4,280.00	
St. Louis & San Francisco Ref. 4's, . . . . .	4,000.00	
St. Paul, Minneapolis & Manitoba 4's, . . . . .	1,529.94	
Schenectady 4½'s, . . . . .	4,871.79	
Second Avenue 5's, . . . . .	4,605.26	
Terminal R. R. Association of St. Louis 4's, . . . . .	8,000.00	
Third Avenue 4's, . . . . .	7,975.31	
Union Pacific 4's, . . . . .	18,000.00	268,312.24

**Interest on Sundry Bonds (after deducting \$2,969.91  
for sinking premiums).**

American Bell Telephone Co. 4's, . . . . .	\$10,162.71	
American Tel. and Tel. Co. 4's, . . . . .	8,000.00	
American Tel. & Tel. Co. 5's, . . . . .	8,819.45	
Broadway Realty Co. 5's, . . . . .	10,082.03	
Brookline Gas Light Co. 5's, . . . . .	188.89	
Butte Water Co. 5's, . . . . .	250.00	
Chicago Edison Co. 5's, . . . . .	4,709.60	
Chicago Junc. Railways & Union Stock Yards Co. 5's, . . . . .	14,979.85	
Chicago Junc. Railways & Union Stock Yards Co. 4's, . . . . .	4,000.00	
City of Whitewright 6's, . . . . .	15.00	
Girard Point Storage Co. 3½'s, . . . . .	691.52	
Laclede Gas Light Co. 5's, . . . . .	1,000.00	
Metropolitan Tel. & Tel. Co. 5's, . . . . .	7,500.00	
Mexican Coal & Coke Co. 5's, . . . . .	300.00	
Minneapolis General Electric Co. 5's, . . . . .	888.89	
Montreal Light, Heat and Power Co. 4½'s, . . . . .	4,466.66	
Municipal Gas & Electric Co. 4½'s, . . . . .	4,500.00	
Amounts carried forward, . . . . .	\$80,004.60	\$390,145.75

*of the Treasurer of Harvard College,  
July 31, 1905.*

**EXPENSES** (*continued*).

Amount brought forward, . . . . .		\$989,862.13
<b>Divinity School, as per Table IV (page 96).</b>		
Salaries for instruction, . . . . .	\$30,176.72	
Scholarships, Exhibitions, and Prizes, . . . . .	2,225.09	
Other expenses, . . . . .	11,424.06	43,825.87
<b>Law School, as per Table V (page 98).</b>		
Salaries for instruction, . . . . .	\$53,983.38	
Librarians and assistants, . . . . .	10,791.15	
Scholarships and loans, . . . . .	9,485.00	
Other expenses, . . . . .	28,527.55	102,787.08
<b>Medical School, as per Table VI (page 100).</b>		
Salaries for instruction, . . . . .	\$91,508.32	
Fees repaid to Instructors, . . . . .	7,149.00	
Retiring allowance, . . . . .	1,000.00	
Fellowships, . . . . .	2,585.00	
Scholarships and Exhibitions, . . . . .	4,478.47	
Prize and expenses, . . . . .	162.50	
Warren Anatomical Museum, . . . . .	628.06	
Books, from special Funds and gifts, . . . . .	1,554.40	
Sundry payments made from special Funds and gifts, . . . . .	6,552.41	
Laboratory appropriations, . . . . .	9,774.35	
Other expenses, . . . . .	29,842.65	155,235.16
<b>Medical School Undertaking, as per Table VI (page 104).</b>		
Building expenses, . . . . .	\$1,264,062.85	
Interest on advances, . . . . .	18,664.33.	
Other expenses, . . . . .	4,674.53	1,287,401.71
<b>Dental School, as per Table VII (page 105).</b>		
Salaries for instruction, . . . . .	\$10,795.00	
Real estate, . . . . .	35,901.30	
Other expenses, . . . . .	15,006.26	61,702.56
<b>Bussey Institution, as per Table VIII (page 106).</b>		
Salaries for instruction, . . . . .	\$8,000.00	
Other expenses, . . . . .	9,318.58	17,318.58
<b>Arnold Arboretum, as per Table IX (page 107).</b>		
Salaries, . . . . .	\$3,500.00	
Real estate, . . . . .	20,281.35	
Other expenses, . . . . .	23,598.39	47,379.74
<b>Botanic Garden and Botanic Museum, as per Table X (page 108).</b>		
Services and wages, . . . . .	\$797.02	
Labor, . . . . .	5,070.80	
Other expenses, . . . . .	4,229.01	10,096.83
Amount carried forward, . . . . .		\$2,715,109.61

*General Statement of Receipts and Disbursements  
for the year ending*

**INCOME (continued).**

Amounts brought forward, . . .		\$80,004.60	\$390,145.75
<b>Interest on Sundry Bonds (continued).</b>			
New England Tel. & Tel. Co. 6's, . . . . .	7,128.90		
"                    "          5's, . . . . .	4,058.82		
Public Service Corporation of New Jersey 5's, . .	2,208.82		
St. Louis National Stock Yards Co. 4's, . . . . .	4,400.00		
United States Steel Corporation 5's, . . . . .	1,600.00		99,400.65
<b>Dividends on Railroad Stocks.</b>			
Boston & Albany, . . . . .	\$35.00		
Boston & Lowell, . . . . .	3,100.00		
Boston & Maine, . . . . .	2,329.25		
Boston & Providence, . . . . .	75.00		
Chicago & Northwestern, . . . . .	3,500.00		
Fitchburg, preferred . . . . .	1,208.75		
Great Northern, preferred, . . . . .	225.75		
Manhattan, . . . . .	5,075.00		
New York Central & Hudson River, . . . . .	6,240.00		
New York, New Haven & Hartford, . . . . .	3,886.00		
Northern (N. H.), . . . . .	1,740.00		
Old Colony, . . . . .	2,535.75		
Pennsylvania, . . . . .	16,484.00		
Père Marquette, preferred, . . . . .	74.00		
Père Marquette, common, . . . . .	175.00		
West End Street, preferred, . . . . .	208.00		46,781.50
<b>Dividends on Manufacturing and Telephone Stocks.</b>			
American Telephone & Telegraph Co., . . . . .	\$12,750.00		
Amoskeag Manufacturing Co., . . . . .	4,200.00		
Brookside Mills, . . . . .	175.00		
Pacific Mills, . . . . .	3,800.00		
United States Steel Corporation, preferred, . . .	780.00		
Western Telephone & Telegraph Co., . . . . .	33.75		21,738.75
<b>Dividends on Real Estate Trust Stocks.</b>			
Barristers Hall Trust, . . . . .	\$3,087.50		
Boston Real Estate Trust, . . . . .	900.00		
Department Store Trust, . . . . .	10,000.00		
Essex Street Trust, . . . . .	3,000.00		
Kimball Building Trust, . . . . .	1,725.00		
Municipal Real Estate Trust, . . . . .	24.00		
Paddock Building Trust, . . . . .	4,161.50		
Post Office Square Building Trust, . . . . .	4,338.83		27,181.33
<b>Dividends on Sundry Stocks.</b>			
Boatmen's Bank of St. Louis, . . . . .	\$3,150.00		
Calumet & Hecla Mining Co., . . . . .	675.00		
Laclede Gas Light Co., preferred, . . . . .	1,000.00		
Amounts carried forward, . . . . .	\$4,825.00	\$585,247.98	

*of the Treasurer of Harvard College,  
July 31, 1905.*

**EXPENSES** (*continued*).

Amount brought forward, . . . . .		\$2,715,109.61	
<b>Gray Herbarium, as per Table XI (page 108).</b>			
Salaries, . . . . .	\$5,700.00		
Services and wages, . . . . .	1,863.66		
Other expenses, . . . . .	8,071.02	10,634.68	
<b>Observatory, as per Table XII (page 109).</b>			
Salaries, . . . . .	\$16,600.00		
Services and wages, . . . . .	7,289.61		
Other expenses, . . . . .	41,728.95	65,618.56	
<b>Museum of Comparative Zoölogy, as per Table XIII (page 111).</b>			
Salaries, . . . . .	\$8,600.00		
Services and wages, . . . . .	8,765.00		
Sturgis Hooper Fund, salary and expenses, . .	5,047.00		
Scholarship, . . . . .	250.00		
Other expenses, . . . . .	19,128.35		
	\$36,790.35		
Less amount paid from College income (see Table II, page 75), . . . . .	4,080.89	82,709.46	
<b>Peabody Museum of American Archae- ology and Ethnology, as per Table XIV (page 112).</b>			
Peabody Professor Fund, Peabody Professor and Curator, . . . . .	\$2,379.97		
Services and wages, . . . . .	2,612.26		
Fellowships and scholarships, . . . . .	1,778.12		
Other expenses, . . . . .	4,894.78		
	\$11,665.13		
Less amount paid from University income (see Table I, page 72), . . . . .	1,263.44	10,401.69	
<b>Semitic Museum, as per Table XV (page 113).</b>			
Curator, . . . . .	\$500.00		
Collections, . . . . .	698.19		
Other expenses, . . . . .	1,090.84		
	\$2,289.03		
Less amount paid from University income (see Table I, page 72), . . . . .	1,590.84	698.19	
<b>Germanic Museum, as per Table XVI (page 114).</b>			
General expenses, . . . . .	\$1,015.48		
Less amount paid from University income (see Table I, page 72), . . . . .	865.48	150.00	
Amount carried forward, . . . . .		\$2,835,817.19	



*General Statement of Receipts and Disbursements  
for the year ending*

**INCOME (continued).**

Amounts brought forward, . . . .	\$4,825.00	\$585,247.98	
<b>Dividends on Sundry Stock (continued).</b>			
Missouri Zinc Fields Co., . . . . .	20.00		
National Union Bank, . . . . .	35.00		
Old Boston National Bank, . . . . .	124.00		
Second National Bank, . . . . .	28.00		5,032.00
<b>Real Estate Investments, from rents, &amp;c., net receipts.</b>			
<b>Cambridge (University Houses and Lands).</b>			
Gross receipts, . . . . .	\$42,764.56		
Less Taxes, . . . . .	\$5,613.44		
Insurance, . . . . .	1,466.89		
Repairs, improvements, care, &c., . . . . .	16,270.19	23,850.52	\$19,414.04
<b>Boston (general investments).</b>			
Gross receipts, . . . . .	\$208,327.67		
Less Taxes, . . . . .	\$42,715.23		
Insurance, . . . . .	2,481.88		
Repairs, improvements, care, &c., . . . . .	4,678.75		
Repaid to capital, . . . . .	6,256.97	56,132.83	147,194.84
<b>Bussey real estate.</b>			
Gross receipts, . . . . .	\$38,582.67		
Less Taxes, . . . . .	\$10,874.08		
Insurance, . . . . .	129.80		
Interest, . . . . .	1,737.07		
Repairs, improvements, care, &c., . . . . .	3,846.88		
Heat and power, . . . . .	3,843.21		
Repaid to capital, . . . . .	5,641.30	26,072.34	12,510.33
<b>Sundry estates (special investments).</b>			
Gross receipts, . . . . .	\$11,750.97		
Less Taxes, . . . . .	\$1,578.64		
Insurance, . . . . .	750.45		
Interest, . . . . .	338.61		
Repairs, improvements, care, &c., . . . . .	3,073.67	5,741.37	6,009.60
			185,128.81
<b>Receipts from Students.</b>			
<b>Tuition fees, regular courses.</b>			
College, . . . . .	\$413,588.28		
Divinity School, . . . . .	6,282.23		
Law School, . . . . .	110,900.08		
Medical School, . . . . .	54,972.50		
Dental School, . . . . .	12,644.50		
Bussey Institution, . . . . .	2,355.50		
School for Social Workers, . . . . .	240.00	\$600,983.09	
Amounts carried forward, . . . . .	\$600,983.09	\$775,408.79	

*of the Treasurer of Harvard College,  
July 31, 1905.*

**EXPENSES (*continued*).**

Amount brought forward, . . . . .		\$2,835,317.19	
<b>William Hayes Fogg Art Museum, as per Table XVII (page 114).</b>			
Salaries, . . . . .	\$1,000.00		
Collections, . . . . .	562.78		
Other expenses, . . . . .	5,511.81		
	<u>\$7,074.59</u>		
Less amount paid from University income (see Table I, page 72), . . . . .	2,816.99	4,257.60	
<b>Jefferson Physical Laboratory, as per Table XVIII (page 115).</b>			
Research expenses, from Funds and gift, . . . . .	\$1,430.15		
Other expenses, . . . . .	4,127.68		
	<u>\$5,557.83</u>		
Less amount paid from College income (see Table II, page 75), . . . . .	690.22	4,867.61	
<b>Appleton Chapel, as per Table XIX (page 116).</b>			
Salaries, . . . . .	\$5,458.50		
Choir, . . . . .	1,600.00		
Other expenses, . . . . .	1,877.57		
	<u>\$8,936.07</u>		
Less amount paid from University income (see Table I, page 72), . . . . .	6,425.20	2,510.87	
<b>Phillips Brooks House, as per Table XX (page 117).</b>			
Salaries, . . . . .	\$1,250.00		
Other expenses, . . . . .	2,762.90		
	<u>\$4,012.90</u>		
Less amount paid from University income (see Table I, page 72), . . . . .	2,123.00	1,889.90	
<b>Hemenway Gymnasium, as per Table XXI (page 118).</b>			
Salaries, . . . . .	\$4,700.00		
Other expenses, . . . . .	7,926.02		
	<u>\$12,626.02</u>		
Less the following items : —			
Paid from College income (see Table II, page 75), . . . . .	\$7,369.59		
Paid from Divinity School income (see Table IV, page 96), . . . . .	108.12		
Paid from Law School income (see Table V, page 98), . . . . .	1,905.88	9,383.59	3,242.48
Amount carried forward, . . . . .		<u>\$2,852,085.60</u>	

*General Statement of Receipts and Disbursements  
for the year ending*

INCOME (continued).

Amounts brought forward, . . . \$600,963.09 \$775,408.79

Receipts from Students (continued).

Tuition fees, Summer courses.

College, . . . . .	\$31,938.75	
Divinity School, . . . . .	915.00	
Medical School, . . . . .	4,571.50	27,425.25

Laboratory fees.

College, . . . . .	\$35,951.80	
Medical School, . . . . .	2,029.67	
Dental School, . . . . .	4,217.01	42,198.48

Examination fees.

College. Admission, . . . . .	\$4,370.00	
Condition, . . . . .	528.00	
Doctor of Philosophy, . . . . .	30.00	
Medical School, . . . . .	285.00	
Dental School, . . . . .	451.00	5,564.00

Graduation fees.

College, . . . . .	\$8,940.00	
Medical School, . . . . .	2,460.00	11,400.00

Matriculation fees, Medical School, . . . . . 880.00

Rooms in dormitories.

College buildings, . . . . .	\$97,838.51	
Less receipts from students, separately entered in Uni- versity Houses and Lands account, . . . . .	19,330.84	
	\$78,502.67	
Divinity Hall, . . . . .	2,940.00	81,442.67

Library fines.

Library, . . . . .	\$335.88	
Divinity School, . . . . .	7.60	
Dental School, . . . . .	.09	343.57

Stillman Infirmary.

Annual fees, . . . . .	\$14,860.00	
Receipts from patients, . . . . .	5,752.32	20,612.32

Use of Microscopes.

Medical School, . . . . .	\$724.75	
Dental School, . . . . .	70.00	794.75

Use of lockers, Hemenway Gymnasium, . . . . . 3,156.00

Summer School excursions, surplus, . . . . . 49.48 794,299.61

Amount carried forward, . . . . . \$1,569,708.40

*of the Treasurer of Harvard College,  
July 31, 1905.*

**EXPENSES** (*continued*).

Amount brought forward, . . . . .		\$2,852,085.60	
<b>Stillman Infirmary, as per Table XXII (page 118).</b>			
Services and wages, . . . . .	\$5,488.11		
Food and supplies, . . . . .	5,679.78		
Other expenses, . . . . .	7,131.50		18,299.39
<b>Annuities from the following Funds.</b>			
Advancement of Astronomical Science (1901), . .	\$2,385.00		
"    "    "    "    (1902), . .	586.95		
Bussey Trust, . . . . .	4,000.00		
Caroline Brewer Croft, . . . . .	2,194.80		
Gurney, . . . . .	1,000.00		
Henry S. Nourse, . . . . .	1,000.00		
Professorship of Hygiene, . . . . .	3,919.76		
George Smith, . . . . .	900.00		
Alexander W. Thayer, . . . . .	480.00		
Charles Wilder, . . . . .	1,908.00		18,874.51
<b>Class Funds.</b>			
Paid the Secretary of the Class of 1853, . . .	\$149.00		
Paid the Secretary of the Class of 1856, . . .	178.87		327.87
<b>Sundry payments.</b>			
Calvin and Lucy Ellis Fund, taxes, . . . . .	\$111.89		
<b>George H. Emerson Scholarship Fund.</b>			
Legal expenses, . . . . .	\$17.69		
Repayment to trustee, . . . . .	325.00		342.69
<b>Charles L. Hancock Fund, taxes on Chelsea</b>			
real estate, . . . . .	39.06		
Munroe Fund, legal expenses, . . . . .	10.00		
<b>Insurance and Guaranty Fund.</b>			
Sewer assessment and insurance on estate in			
Lucas St., Boston, . . . . .	300.86		
Henry S. Nourse Fund, legal expenses and			
insurance, . . . . .	22.19		
George Smith Bequest, express charges, rent			
of safe, etc., . . . . .	106.54		
Stoughton Scholarship Fund, legal expenses, .	15.00		
David Ames Wells Fund, legal expenses, . .	111.00		
Daniel Williams Fund, for the benefit of the			
Masphee and Herring Pond Indians, . . . . .	788.89		
Sarah Winslow Fund, to the Minister and			
the Teacher at Tyngsborough, Mass., . . . .	227.98		
Woodland Hill Fund, taxes on Muddy River land,			
street assessment and legal expenses, . . . . .	1,768.63		
Gifts for Cuban Teachers, expenses, . . . . .	25.00		
Amounts carried forward, . . . . .	\$3,869.23	\$2,889,087.37	

*General Statement of Receipts and Disbursements  
for the year ending*

**INCOME (continued).**

Amount brought forward, . . . . .	\$1,569,708.40	
<b>Sundries.</b>		
Professorship of Hygiene, from Trustees, . . . . .	\$982.90	
<b>Asa Gray's</b> copyrights, . . . . .	784.80	
Trustee of <b>George H. Emerson</b> estate, . . . . .	883.80	
Trustee of <b>C. L. Hancock</b> real estate, . . . . .	1,294.57	
Trustees of <b>Edward Hopkins</b> , . . . . .	207.25	
Sale of grass, wood, old material, &c., . . . . .	4,964.40	
“ old examination papers, . . . . .	359.02	
“ tickets to Commencement Lunch, . . . . .	623.50	
“ tickets to Divinity School Alumni Dinner, . . . . .	48.00	
“ books, pamphlets, catalogues, &c., . . . . .	7,539.85	
Board of horses, cattle, &c., at <b>Bussey</b> Institution, . . . . .	5,196.84	
Use of Library by resident graduates and others, . . . . .	85.00	
“ Gymnasium by graduates and others, . . . . .	86.43	
“ Buildings (not Univ. Houses and Lands), . . . . .	6,144.67	
Fees in Infirmary, Dental School, . . . . .	6,189.09	
<b>Mary L. Whitney</b> Scholarship, from the Executor of the will of <b>C. L. B. Whitney</b> , . . . . .	65.89	
Engineering camp at <b>Squam Lake</b> , . . . . .	15,278.46	
Fire insurance awards, . . . . .	5,542.48	56,166.95
Sundry Gifts for immediate use (see page 81), . . . . .		875,295.59
Total amount of income, . . . . .		<b>\$2,501,170.94</b>

**RECEIPTS EXCLUSIVE OF INCOME.**

**GIFTS FOR CAPITAL ACCOUNT.**

<b>James Barr Ames</b> Loan Fund, . . . . .	\$500.00
Anonymous Aid Fund, . . . . .	5,000.00
<b>Arnold Arboretum</b> Fund (additional), . . . . .	835.00
<b>Philo Sherman Bennett</b> Prize Fund, . . . . .	400.00
<b>Daniel A. Buckley</b> Fund, . . . . .	55,886.52
<b>Walter Channing Cabot</b> Fund, . . . . .	50,000.00
<b>Francis James Child</b> Memorial Fund (additional), . . . . .	50.00
<b>Class of 1880</b> Fund, . . . . .	100,000.00
Class Subscription Fund (additional), . . . . .	172.50
<b>Edward W. Codman</b> Fund, . . . . .	321,361.90
<b>Calvin and Lucy Ellis</b> Aid Fund (additional), . . . . .	2,399.37
<b>George H. Emerson</b> Scholarship Fund, . . . . .	5,862.76
<b>Richard W. Foster</b> Fund, . . . . .	12,500.00
Fund for the Advancement of Astronomical Science (1902) (additional), . . . . .	1,000.00
Fund of the <b>Class of 1846</b> , . . . . .	10,571.07
<b>Lloyd McKim Garrison</b> Prize Fund, . . . . .	2,700.00
<b>F. B. Greenough</b> Fund for Surgical Research (additional), . . . . .	500.00

Amounts carried forward, . . . . **\$569,739.12 \$2,501,170.94**

*of the Treasurer of Harvard College,  
July 31, 1905.*

**EXPENSES** (*continued*).

Amounts brought forward, . . . . .	\$3,869.23	\$2,889,087.37
<b>Sundry payments</b> ( <i>continued</i> ).		
Gifts for the purchase of land in New Hampshire, addition to the estate at Squam Lake, . . . . .	1,480.00	5,349.23
<b>Construction Funds.</b>		
Emerson Hall, . . . . .	\$111,144.88	
Semitic Building, . . . . .	682.06	
John Simpkins Hall, . . . . .	956.10	
Stadium, and improvements at The Soldier's Field, . . . . .	17,953.85	
Stillman Infirmary, . . . . .	69,380.03	
University Museum, . . . . .	1,460.12	201,576.04
Total amount of expenses, . . . . .		\$3,096,012.64

**INVESTMENTS AND SUNDRY PAYMENTS.**

**GENERAL INVESTMENTS.**

\$100,000 Boston Electric Light Co. 1st Cons. M. 5's of 1924, . . . . .	\$118,250.00
50,000 Boston & Northern Street R'y 1st M. Ref. 4's of 1954, . . . . .	45,000.00
£3,500 Imperial Japanese Government Sterling Loan 4½'s of 1925, . . . . .	15,834.55
\$200,000 Interborough Rapid Transit Co. 4% Gold Notes of 1908, . . . . .	195,900.00
100,000 Minneapolis General Electric Co. Gen. M. 5's of 1934, . . . . .	102,500.00
91,000 Montana Central R'y 1st M. 6's of 1937, . . . . .	124,215.00
100,000 New York, New Haven & Hartford R.R. Deb. 4's of 1955, . . . . .	106,250.00
50,000 Old Colony Street R'y 1st M. Ref. 4's of 1954, . . . . .	45,000.00
100,000 Portland General Electric Co. 1st M. 5's of 1935, . . . . .	102,250.00
100,000 Public Service Corporation of New Jersey 5% Coll. Notes of 1909, . . . . .	97,000.00
£40,000 St. Paul, Minneapolis & Manitoba (Pacific Extension) R'y 4's of 1940, . . . . .	201,696.97
\$100,000 United States of Mexico 4's of 1954, . . . . .	93,250.00
2,000 shares American Smelters Securities Co. 5% Cumulative, preferred. Series B, . . . . .	196,000.00
75 shares Chicago & Northwestern R.R., common, . . . . .	7,500.00
129 " Great Northern R'y, preferred, . . . . .	23,261.93
Improvements on Townsend Estate, . . . . .	139.62
Advances to Bussey Real Estate, . . . . .	184,811.30
" Calvin and Lucy Ellis Real Estate, . . . . .	161.58
Amounts carried forward, . . . . .	\$1,653,520.95
	\$3,096,012.64

*General Statement of Receipts and Disbursements  
for the year ending*

**RECEIPTS EXCLUSIVE OF INCOME** (*continued*).

Amounts brought forward, . . . \$569,739.12 \$2,501,170.94

**GIFTS FOR CAPITAL ACCOUNT** (*continued*).

<b>Edwin A. W. Harlow Fund</b> , . . . . .	1,607.57	
<b>Edward William Hooper Fellowship Fund</b> , . . .	25,000.00	
<b>Charles Eliot Norton Book Fund</b> , . . . . .	8,500.00	
<b>Francis Greenwood Peabody Endowment</b> , . .	100,000.00	
<b>The Philadelphia Scholarship (additional)</b> , . . . . .	550.00	
<b>Shattuck Professorship of Pathological Anatomy Fund</b> (additional), . . . . .	1,000.00	
<b>William M. Spackman Fund</b> , . . . . .	2,500.00	
<b>Teachers' Endowment Fund</b> , . . . . .	736,225.28	
<b>Jerome Wheelock Fund (additional)</b> , . . . . .	10.00	
<b>Charles Wyman Scholarship Fund</b> , . . . . .	10,000.00	1,455,131.97

**SALES, ETC., GENERAL INVESTMENTS.**

<b>\$100,000 American Tel. &amp; Tel. Co. 5% Gold Coupon</b> Notes of 1907, . . . . .	\$101,437.50	
<b>34,200 Burl. &amp; Mo. River (Neb.) R. R. non. ex. 6's</b> , called and paid off at par, . . . . .	34,200.00	
<b>100,000 Chicago &amp; North Western (Madison Extension)</b> R. R. 1st M. 7's of 1911, . . . . .	117,150.00	
<b>25,000 Fort Scott, South Eastern &amp; Memphis R. R.</b> 1st M. 7's, called and paid off at 105, . . .	26,250.00	
<b>100,000 Massachusetts Electric Companies 4½% Gold</b> Coupon Notes of 1906, . . . . .	98,000.00	
<b>9,000 Pennsylvania Company 3½'s of 1916</b> , called and paid off at par, . . . . .	9,000.00	
<b>50,000 Pennsylvania Company Coll. Trust 4½% Notes</b> of 1905, . . . . .	50,245.00	
<b>582 shares New York, New Haven &amp; Hartford R.R.</b> , . . . . .	111,737.24	
<b>1,000 " Pennsylvania R. R.</b> , . . . . .	67,437.50	
<b>Notes paid</b> , . . . . .	1,184,000.00	1,799,457.24

**SALES, ETC., SPECIAL INVESTMENTS.**

**Sales, etc., of investments of the Edward W. Codman Fund.**

<b>\$13,000 American Tel. &amp; Tel. Co. Coll. Trust 4's</b> of 1929, . . . . .	\$12,730.25	
<b>2,500 Atchison, Topeka &amp; Santa Fé R'y Adjustment</b> 4's of 1995, . . . . .	2,411.87	
<b>4,000 Atchison, Topeka &amp; Santa Fé R'y Gen. M. 4's</b> of 1995, . . . . .	4,095.00	
<b>Amounts carried forward</b> , . . . . .	\$19,237.12	\$5,755,760.15

*of the Treasurer of Harvard College,  
July 31, 1905.*

**INVESTMENTS AND SUNDRY PAYMENTS (*continued*).**

Amounts brought forward, . . . \$1,653,520.95 \$3,096,012.64

**GENERAL INVESTMENTS (*continued*).**

Advances to Dental School Real Estate, . . . . .	34.52	
“ Harvard Dining Association, . . . . .	32,959.63	
“ Sundry accounts, . . . . .	1,244.53	
Invested in notes, . . . . .	1,200,000.00	
Accrued interest and expenses on bonds bought, . . .	9,374.67	2,897,134.80

**SPECIAL INVESTMENTS OF VARIOUS FUNDS.**

**Daniel A. Buckley Fund.**

Mortgages on Cambridge real estate, paid, . . . . \$10,500.00

**Edward W. Codman Fund.**

1 share Boston Real Estate Trust, . . . . . 1,125.00

**Robert Troup Paine Fund.**

\$1,000 Massachusetts 3½'s of 1938, . . . . . 1,055.00

**Price Greenleaf Fund.**

5 Rights Boston Real Estate Trust, . . . . . 25.00

2 shares “ “ “ “ . . . . . 2,250.00

Note of Massachusetts Cotton Mills, . . . . . 50,000.00

**University houses and lands.**

Estate No. 10 Oxford St., Cambridge, . . . . . 10,061.15

Estate No. 21 Kirkland St., Cambridge, . . . . . 40,128.85

**Woodland Hill Fund.**

Building for the Laboratory of Comparative Pathology, . . . . .	5,922.02	121,067.02
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**Property received on account of the Daniel A. Buckley Fund.**

Real estate in Cambridge, Mass., . . . . . \$47,200.00

Real estate in Deer Isle, Maine, . . . . .	1.00	47,201.00
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**Property received on account of the Edward W. Codman Fund.**

\$13,000 American Telephone & Telegraph Co. Collateral Trust 4's of 1929, . . . . . \$12,730.25

2,500 Atchison, Topeka & Santa Fé R'y Adjustment 4's of 1995, . . . . . 2,411.87

4,000 Atchison, Topeka & Santa Fé R'y Gen. M. 4's of 1995, . . . . . 4,095.00

3,000 Burlington & Missouri River (Nebraska) R.R. exempt 6's of 1918, . . . . . 3,477.75

5,000 Chicago, Milwaukee & St. Paul (Dubuque Division) R'y 1st M., S. F., 6's of 1920, . . 6,421.25

5,000 Kansas City, Fort Scott & Memphis R.R. Cons. M. 6's of 1928, . . . . . 6,250.00

Amounts carried forward, . . . . .	\$35,386.12	\$6,161,414.96
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*General Statement of Receipts and Disbursements  
for the year ending*

**RECEIPTS EXCLUSIVE OF INCOME (continued).**

Amounts brought forward, . . . \$19,237.12 \$5,755,760.15

**SALES, ETC., SPECIAL INVESTMENTS (continued).**

**Sales, etc., of investments of the Edward W. Codman Fund (continued).**

\$3,000 Burl. & Mo. River (Neb.) R. R. Exempt 6's of 1918, . . . . .	3,477.75		
5,000 Chicago, Milwaukee & St. Paul (Dubuque Div.) R'y 1st M., S. F., 6's of 1920, . . . . .	6,421.25		
3,000 Kansas City, Memphis & Birmingham R. R. Gen. M. 4's of 1934, . . . . .	2,962.75		
20 shares Atchison, Topeka & Santa Fé R'y, pre- ferred, . . . . .	2,057.50		
90 shares Boston & Albany R. R., . . . . .	23,388.74		
45 " Boston & Lowell R. R., . . . . .	11,154.37		
37 " Boston & Maine R. R., common, . . . . .	6,655.37		
31 " Fitchburg R. R., preferred, . . . . .	4,553.12		
100 " Massachusetts Electric Companies, pref., . . . . .	6,787.50		
25 " New York, New Haven & Hartford R. R., . . . . .	5,121.87		
46 " Old Colony R. R., . . . . .	9,746.24		
50 " Père Marquette R. R., common, . . . . .	4,893.75		
8 " Second National Bank, . . . . .	1,730.00		
15 " State National Bank, . . . . .	2,261.25		
10 " National Union Bank, . . . . .	1,790.00		
20 " Lancaster Mills, . . . . .	795.00		
50 " Lyman Mills, . . . . .	3,487.50		
50 " Massachusetts Cotton Mills, . . . . .	3,925.00		
60 " Massachusetts Mills in Georgia, . . . . .	6,000.00		
145 " Pepperell Manufacturing Co., . . . . .	37,283.12		
50 " Board of Trade Building Trust, . . . . .	5,379.37		
50 " South Terminal Trust, . . . . .	3,450.00		
25 " State Street Exchange, . . . . .	2,819.30		

**Undivided half of Estate No. 53 Marlborough**

St., Boston, . . . . . \$38,400.00

Less commissions and expenses, . . . . .	531.65	37,868.35	213,246.22
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**Sales of Investments of the Henry S. Nourse Fund.**

32 shares American Sugar Refining Co., . . . . .	\$4,188.00		
30 " Lanett Cotton Mills, . . . . .	2,542.50		
80 " The National Lead & Improvement Co. of Colorado, . . . . .	715.00		
21 " Pennsylvania Steel Co., preferred, . . . . .	1,622.25		
15 " Western Tel. & Tel. Co., preferred, . . . . .	1,365.00		
45 " Western Tel. & Tel. Co., common, . . . . .	601.25		
Mortgage Notes paid, . . . . .	6,600.00	17,634.00	
Amount carried forward, . . . . .		\$5,986,640.37	

*of the Treasurer of Harvard College,  
July 31, 1905.*

**INVESTMENTS AND SUNDRY PAYMENTS (continued).**

Amounts brought forward, . . . . . \$35,386.12 \$6,161,414.96

**SPECIAL INVESTMENTS (continued).**

**Property received on account of the Edward W.  
Codman Fund (continued).**

\$3,000 Kansas City, Memphis & Birmingham Gen.

M. 4's of 1934, . . . . . 2,962.75

10,000 Northern Pacific-Great Northern R'y Joint 4's

(C. B. & Q. Coll.) of 1921, . . . . . 9,800.00

20 shares Atchison, Topeka & Santa Fé R'y, pre-

ferred, . . . . . 2,057.50

100 shares Boston & Albany R. R., . . . . . 25,908.74

100 " Boston & Lowell R. R., . . . . . 24,854.37

100 " Boston & Maine R. R., common, . . . . 17,865.37

50 " Fitchburg R. R., preferred, . . . . . 7,343.74

100 " Massachusetts Electric Companies, pre-

ferred, . . . . . 6,787.50

25 " New York, New Haven & Hartford R. R., . . . . 5,121.87

75 " Old Colony R. R., . . . . . 15,691.24

37 " Père Marquette R. R., preferred, . . . . 2,923.00

50 " Père Marquette R. R., common, . . . . 4,893.75

62 " Old Boston National Bank, . . . . . 6,618.50

8 " Second National Bank, . . . . . 1,730.00

15 " State National Bank, . . . . . 2,261.25

10 " National Union Bank, . . . . . 1,790.00

20 " Lancaster Mills, . . . . . 795.00

50 " Lyman Mills, . . . . . 3,487.50

50 " Massachusetts Cotton Mills, . . . . . 3,925.00

60 " Massachusetts Mills in Georgia, . . . . 6,000.00

2 " Pacific Mills, . . . . . 4,600.00

145 " Pepperell Manufacturing Co., . . . . . 37,283.12

25 " Barristers Hall Trust, . . . . . 1,875.00

50 " Board of Trade Building Trust, . . . . . 5,379.37

10 " Boston Real Estate Trust, . . . . . 12,100.00

25 " Central Building Trust, . . . . . 2,375.00

25 " Hotel Trust, . . . . . 2,800.00

12 " Municipal Real Estate Trust, . . . . . 1,200.00

50 " South Terminal Trust, . . . . . 3,450.00

25 " State Street Exchange, . . . . . 2,819.30

Undivided half of estate No. 53 Marlborough St.,

Boston, Mass., . . . . . 37,868.35

Undivided half of estate in Nahant, Mass., . . . . 10,733.72 309,687.06

Amount carried forward, . . . . . \$6,471,102.02

*General Statement of Receipts and Disbursements  
for the year ending*

**RECEIPTS, EXCLUSIVE OF INCOME (continued).**

Amount brought forward, . . . . . \$5,986,640.87

**SALES, ETC., SPECIAL INVESTMENTS (continued).**

**Sales of Investments of the George Smith Bequest.**

\$18,000 Citizens Street R'y Co., Shelby County, Tennessee, Gold 6's of 1916, . . . . .	\$14,869.88	
4,000 City of Commerce, Texas, Permanent Improvement 6's of 1921, . . . . .	4,021.88	
17,000 City of Ennis, Texas, Bridge and Street Improvement 6's of 1985, . . . . .	17,090.67	
8,000 Grand River Township, Cass County, Missouri, Funding 5's of 1917, . . . . .	8,075.88	
11,000 Jones County, Texas, Ref. Court House 5's of 1937, . . . . .	10,622.68	
4,000 Lampasas Co., Texas, Bridge 5's of 1910, . .	4,062.78	
500 City of Whitewright, Texas, Permanent Improvement 6's of 1914, . . . . .	500.17	
200 shares Boatmen's Bank of St. Louis, . . . .	49,900.00	
480 " United States Steel Corporation, preferred, . . . . .	29,280.00	132,922.74

**Sales of Investments of the George H. Emerson Scholarship Fund.**

\$1,000 American Bell Telephone Co. 4's of 1908, . .	\$1,012.89	
300 Burlington, Cedar Rapids & Northern R'y 1st M. 5's of 1906, . . . . .	305.70	
600 Burlington & Missouri River (Neb.) R. R. Exempt 6's of 1918, . . . . .	689.80	
2,400 Republican Valley R. R. 6's of 1919, . . . .	2,503.60	4,511.99

**SALES, ETC., OF SPECIAL INVESTMENTS OF VARIOUS FUNDS.**

**Price Greenleaf Fund.**

\$50,000 Note of Massachusetts Cotton Mills, paid, . \$50,000.00

**Arthur T. Lyman Fund.**

\$25,000 Note of Boston Manufacturing Co., paid, . 25,000.00

**Scholarship of the Class of 1883 Fund.**

\$5,000 Brookline Gas Light Co. Gen. M. 5's of 1913, 5,807.50

**David Ames Wells Fund.**

Undivided one-sixth share of Estate Nos. 100-102

Pineapple St., Brooklyn, N. Y., . . . . . 5,890.92

**James Barr Ames Prize Fund.**

Personal note, paid in part, . . . . . 250.00

**Charles L. Hancock Bequest.**

Lots Nos. 38 and 40 West Third St., Chelsea, Mass., and Lots Nos. 37 and 39 Elm

St., Chelsea, Mass. . . . . \$1,200.00

Less commissions and expenses, . . . . .	65.50	1,134.50	87,082.92
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Amount carried forward, . . . . . \$6,211,158.02

*of the Treasurer of Harvard College,  
July 31, 1905.*

**INVESTMENTS AND SUNDRY PAYMENTS (*continued*).**

Amount brought forward, . . . . . \$6,471,102.02

**SPECIAL INVESTMENTS (*continued*).**

Property received on account of the **George H.**

**Emerson Scholarship Fund.**

\$1,000 American Bell Telephone Co. 4's of 1908, .	\$1,012.89	
300 Burlington, Cedar Rapids & Northern R'y 1st		
M. 5's of 1906, . . . . .	305.70	
600 Burlington & Missouri River (Nebraska) R.R.		
exempt 6's of 1918, . . . . .	689.80	
2,400 Republican Valley R. R. 6's of 1919, . . . . .	<u>2,508.60</u>	4,511.99

Property received on account of the **Teachers' Endow-  
ment Fund.**

\$5,000 Broadway Realty Co., Purchase money 2nd		
M. 5's of 1916, . . . . .		5,000.00

Amount carried forward, . . . . .	<u>\$6,480,614.01</u>
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*General Statement of Receipts and Disbursements  
for the year ending*

**RECEIPTS, EXCLUSIVE OF INCOME** *(continued)*.

Amount brought forward, . . . . . \$6,211,158.02

**SUNDRIES.**

<b>Harvard Dining Association, to reduce debt, . . . .</b>	<b>\$2,300.00</b>	
<b>Randall Hall Association, to reduce debt, . . . .</b>	<b>1,000.00</b>	
<b>Premiums on Bonds, repaid in part, . . . . .</b>	<b>9,723.45</b>	
<b>Advances for accrued interest and expenses on bonds repaid, . . . . .</b>	<b>6,241.90</b>	
<b>Improvements on Adams Estate, repaid in part, . . .</b>	<b>3,338.00</b>	
"    " <b>Gray Estate, repaid in part, . . . .</b>	<b>2,918.97</b>	
"    " <b>Bussey Real Estate, repaid in part,</b>	<b>5,641.30</b>	
<b>Loans to Students, repaid, . . . . .</b>	<b>4,098.69</b>	
<b>Sundry repayments, . . . . .</b>	<b>746.67</b>	
<b>Reserved for the payment of certain bills for 1904-05, which were charged off, but not paid, during the year,</b>	<b>3,149.20</b>	
<b>Sale of part of the land, which was bought in connection with the Medical School Undertaking, . . . .</b>	<b>134,383.44</b>	<b>173,541.62</b>

**Bursar's Sundry Accounts.**

Receipts during the year.

On account of <b>Harvard Dining Association, .</b>	<b>\$208,195.82</b>	
" <b>Randall Hall Association, . .</b>	<b>83,400.38</b>	
On Sundry accounts, . . . . .	<b>170,397.08</b>	<b>461,993.28</b>

**Balance, August 1, 1904.**

Cash in Adams Trust Co., . . . . .	<b>\$10,478.81</b>	
"    City Trust Co., . . . . .	<b>4,392.91</b>	
"    Equitable Trust Co., . . . . .	<b>105,938.41</b>	
"    Old Boston National Bank, . . . . .	<b>4,253.87</b>	
"    National Union Bank, . . . . .	<b>15,413.69</b>	
Term Bills due in October, 1904, . . . . .	<b>249,422.71</b>	
"    overdue, . . . . .	<b>8,870.39</b>	
Cash in hands of Charles F. Mason, Bursar, . . .	<b>29,455.96</b>	<b>428,226.25</b>
<b>Total, . . . . .</b>		<b>\$7,274,919.17</b>

*of the Treasurer of Harvard College,  
July 31, 1905.*

**INVESTMENTS AND SUNDRY PAYMENTS (*continued*).**

Amount brought forward, . . . . . \$6,480,614.01

**Bursar's Sundry Accounts.**

**Payments during the year.**

On account of Harvard Dining Association, .	\$203,186.75	
"    Randall Hall Association, . .	84,936.88	
On sundry accounts, . . . . .	<u>169,365.72</u>	457,488.85

**Balance, July 31, 1905.**

Cash in Adams Trust Co., . . . . .	\$51,692.62	
"    City Trust Co., . . . . .	2,782.22	
"    Equitable Trust Co. . . . .	48,787.87	
"    Merchants National Bank, . . . . .	7,937.54	
"    National Shawmut Bank, . . . . .	25,145.21	
"    National Union Bank, . . . . .	61,719.58	
"    Old Boston National Bank, . . . . .	42,858.31	
Term Bills overdue, . . . . .	57,675.59	
Cash in hands of Charles F. Mason, Bursar, . . .	<u>88,217.37</u>	836,816.31
Total, . . . . .		\$7,274,919.17

*The following Account exhibits the State of the Property, as entered upon the Treasurer's Books, July 31, 1905.*

Separate Investments, as stated in detail on pages 3, 4, 5, 6, and 7 of this report, consisting of

Railroad Bonds, . . . . .	\$328,949.28	
Sundry Bonds, . . . . .	407,310.43	
Railroad Stocks, . . . . .	365,124.21	
Real Estate Trust Stocks, . . . . .	54,453.75	
Sundry Stocks, . . . . .	69,166.50	
University Houses and Lands, . . . . .	569,527.04	
Bussey Real Estate, . . . . .	392,710.18	
Other Real Estate, . . . . .	207,378.42	
Mortgages and Notes, . . . . .	146,300.00	
Deposits in Massachusetts Hospital Life Ins. Co.,	21,225.00	
Cash in City Trust Co., . . . . .	2,782.22	\$2,564,927.0

And "General Investments," as follows:—

**Mortgages and Notes.**

Mortgages, . . . . .	\$650,000.00	
Boston Manufacturing Co.'s Note, . . . . .	50,000.00	
Edison Electric Illuminating Co.'s Notes, . . .	200,000.00	
Hamilton Manufacturing Co.'s Note, . . . . .	50,000.00	
Manchester Cotton Mills' Note, . . . . .	50,000.00	
Merrimack Manufacturing Co.'s Notes, . . . . .	100,000.00	
Terminal R. R. Association of St. Louis, Note, .	50,000.00	
Personal Notes, with collateral, . . . . .	200,000.00	1,350,000.0

**Public Funds.**

£3,500 Imperial Japanese Government Sterling

Loan 4½'s of 1925, . . . . .	\$15,334.55	
\$100,000 United States of Mexico 4's of 1954, . .	98,250.00	108,584.5

**Railroad Bonds.**

\$100,000 Baltimore & Ohio 1st M. 4's of 1948, . .	\$96,625.00	
100,000 Baltimore & Ohio (S. W. Division) 1st M. 3½'s of 1925, . . . . .	89,750.00	
100,000 Baltimore & Ohio (Pittsburg, Lake Erie & West Virginia System) Ref. M. 4's of 1941, . . . . .	99,250.00	
125,000 Bangor & Aroostook Cons. Ref. M. 4's of 1951, . . . . .	118,750.00	
150,000 Boston & Northern Street R'y 1st M. Ref. 4's of 1954, . . . . .	139,000.00	
200,400 Burl. & Mo. R. in Nebr. non ex. 6's, . .	200,400.00	
100,000 Chicago & Alton 4% Coll. Notes of 1907,	98,350.00	
444,000 Chicago, Burl. & Quincy 3½'s of 1949, . .	457,032.49	
200,000 Chicago, Burl. & Quincy (Illinois Divi- sion) 4's of 1949, . . . . .	200,977.78	
100,000 Chicago & No. Western Gen. M. 3½'s of 1987, . . . . .	100,970.80	

Amounts carried forward, . . . \$1,601,106.07 \$4,023,511.56

Amounts brought forward, . . \$1,601,106.07 \$4,023,511.58

**Railroad Bonds (continued).**

\$100,000 Chicago, Rock Island & Pacific Gen. M.	
4's of 1988, . . . . .	106,525.68
100,000 Chicago Terminal Transfer 1st M. 4's	
of 1947, . . . . .	95,772.50
154,500 Eastern, 1st M. 6's of 1906, . . . . .	154,314.58
£19,600     "     "     "     Sterling of 1906, . . . . .	95,383.40
100,000 Indiana, Ill. & Iowa 1st M. 4's of 1950, . . . . .	96,500.00
200,000 Interborough Rapid Transit 4% Gold	
Notes of 1908, . . . . .	195,900.00
142,000 Kansas City, Fort Scott & Memphis	
Cons. M. 6's of 1928, . . . . .	172,230.46
114,000 Kansas City, Memphis & Birmingham	
(assented) Income 5's of 1934, . . . . .	103,500.00
100,000 Lake Shore & Michigan Southern Deb.	
4's of 1928, . . . . .	95,000.00
300,000 Long Island Unified M. 4's of 1949, . . . . .	283,257.50
200,000 Louisville & Jeffersonville Bridge Co.	
1st M. 4's of 1945, . . . . .	191,000.00
100,000 Metrop. West Side Elevated 4's of 1938, . . . . .	91,746.25
100,000     "     "     "     Ext. M. 4's	
of 1938, . . . . .	97,000.00
100,000 Minneapolis Union 1st M. 5's of 1922, . . . . .	102,263.81
100,000 Missouri Pacific 5% Notes of 1906, . . . . .	99,000.00
91,000 Montana Central 1st M. 6's of 1937, . . . . .	124,215.00
300,000 New York Central & H. R. (L. S. &	
M. S. Coll.) 3½'s of 1998, . . . . .	295,964.40
100,000 New York, New Haven & Hartford Deb.	
4's of 1955, . . . . .	106,250.00
200,000 New York, Ontario & Western Ref. M.	
4's of 1992, . . . . .	210,080.45
343,000 Northern Pacific-Great Northern Joint	
4's (C. B. & Q. Coll.) of 1921, . . . . .	164,325.92
150,000 Old Colony Street R'y 1st M. Ref. 4's of	
1954, . . . . .	139,000.00
100,000 Oregon Short Line Cons. 1st M. 5's of	
1946, . . . . .	117,095.59
81,000 Pennsylvania Co. 3½'s of 1916, . . . . .	78,875.00
50,000 Pennsylvania Co. Coll. Tr. 4½% Notes of	
1905, . . . . .	49,598.75
100,000 Rutland Car Trust 4½'s of 1905, . . . . .	100,000.00
100,000 St. Louis & San Francisco Ref. M. 4's	
of 1951, . . . . .	97,125.00
100,000 Schenectady 1st M. 4½'s of 1941, . . . . .	104,679.48
£40,000 St. Paul, Minneapolis & Manitoba (Paci-	
fic Extension) 4's of 1940, . . . . .	201,696.97
\$100,000 Second Ave. (N. Y.) Con. M. 5's of 1948, . . . . .	116,973.82
200,000 Terminal R. R. Association of St. Louis	
Gen. M. Ref. 4's of 1953, . . . . .	200,000.00

Amounts carried forward, . . . \$5,686,880.63 \$4,023,511.58



Amounts brought forward, . . .		\$5,686,380.63	\$4,023,511.53
<b>Railroad Bonds (continued).</b>			
200,000 Third Avenue (N. Y.) 1st Consol. M.			
4's of 2000, . . . . .	202,333.03		
400,000 Union Pacific 1st M. & L. G. 4's of 1947, . . . . .	353,114.75	6,241,828.41	
<b>Sundry Bonds.</b>			
\$200,000 American Bell Tel. Co. 4's of 1908, . . . . .	\$201,524.96		
200,000 American Tel. & Tel. Co. 4's of 1929, . . . . .	196,000.00		
100,000 American Tel. & Tel. Co. 5% Gold Coupon			
Notes of 1907, . . . . .	96,562.50		
100,000 Boston Electric Light Co. 1st Cons. M.			
5's of 1924, . . . . .	113,250.00		
145,000 Broadway Realty Co. Purchase money			
1st M. 5's of 1926, . . . . .	155,400.52		
100,000 Chicago Edison Co. 1st M. 5's of 1926, . . . . .	106,098.40		
250,000 Chicago Junction Railways and Union			
Stock Yards Coll. Trust 5's of 1915, . . . . .	250,201.45		
100,000 Chicago Junction Railways and Union			
Stock Yards 4's of 1940, . . . . .	98,500.00		
100,000 Metrop. Tel. & Tel. Co. 1st M. 5's of 1918, . . . . .	99,500.00		
100,000 Minneapolis General Electric Co. Gen.			
M. 5's of 1934, . . . . .	102,500.00		
100,000 Montreal Light, Heat and Power Co. 1st			
M. Coll. Tr. 4½'s of 1932, . . . . .	100,883.31		
100,000 Municipal Gas & Electric Co. of Roches-			
ter, N. Y. 1st M. 4½'s of 1942, . . . . .	100,000.00		
100,000 New England Tel. & Tel. Co. 6's of 1906, . . . . .	100,296.84		
100,000 " " " 5's of 1916, . . . . .	110,352.92		
100,000 Portland General Electric Co. 1st M.			
5's of 1935, . . . . .	102,250.00		
100,000 Public Service Corporation of New			
Jersey 5% Coll. Notes of 1909, . . . . .	97,000.00		
110,000 St. Louis National Stock Yards Co. 1st			
M. 4's of 1930, . . . . .	108,650.00	2,188,970.90	
<b>Railroad Stocks.</b>			
575 shares Chicago & No. Western, common, . . . . .	\$90,062.50		
129 " Great Northern, preferred, . . . . .	23,261.98		
700 " Manhattan, . . . . .	92,762.50		
1325 " N. Y. Central & Hud. River, . . . . .	64,674.87		
418 " New York, New Haven & Hartford, . . . . .	76,700.26		
4771 " Pennsylvania, . . . . .	309,500.80	656,962.36	
<b>Manufacturing and Telephone Stocks.</b>			
2000 shares American Smelters Securities Co. 5%			
cumulative, preferred, series B, . . . . .	\$196,000.00		
1700 shares American Tel. & Tel. Co., . . . . .	238,125.88		
12 " Amoskeag Manufacturing Co., . . . . .	3,654.00		
187 " Merrimack " " . . . . .	18,615.10		
24 " Pacific Mills, . . . . .	16,668.29	473,062.77	
Amount carried forward, . . . . .		\$13,534,236.02	

Amount brought forward, . . . . . \$13,534,336.02

**Real Estate Trust Stocks.**

1000 shares	Barristers Hall Trust, . . . . .	\$92,766.00	
2500	“ Department Store Trust, . . . . .	220,291.88	
1000	“ Essex Street Trust, . . . . .	100,000.00	
750	“ Kimball Building Trust, . . . . .	75,000.00	
1089	“ Paddock Building Trust, . . . . .	104,363.72	
1000	“ Post Office Square Building Trust, . . . . .	103,000.00	695,421.60

**Real Estate.**

Adams Estate, Washington Street, Boston, . . .	\$278,373.02	
Amory Estate, Franklin Street, Boston, . . .	165,615.81	
Cowdin Estate, Haymarket Square, Boston, . .	36,000.00	
Estate, 20 and 21 Haymarket Square, Boston, . .	58,913.52	
Gerrish Block, Blackstone and North Streets, Boston, . . . . .	192,875.75	
Gray Estate, Washington Street, Boston, . . .	893,509.30	
Lowell Estate, Washington Street, Boston, . . .	464,368.91	
Townsend Estate, Hawkins Street, Boston, . . .	44,709.11	
Webb Estate, Washington Street, Boston, . . .	164,604.79	2,298,970.21

**Sundries.**

Advances to Bussey Trust, . . . . .	\$232,671.81	
“ Calvin & Lucy Ellis Real Estate, . . . . .	167.12	
“ Dental School Real Estate, . . . . .	34.52	
“ Medical School Undertaking, . . . . .	751,311.93	
“ Observatory, . . . . .	5,466.59	
“ Peabody Museum of American Archaeology and Ethnology, . . . . .	1,981.04	
“ Botanic Department, . . . . .	8,088.11	
“ Harvard Dining Association, . . . . .	76,649.77	
“ Randall Hall Association, . . . . .	32,202.27	
“ Uriah A. Boyden Fund, . . . . .	3,160.73	
“ T. Jefferson Coolidge Fund, . . . . .	1,076.03	
“ Classical Publication Fund of the Class of 1856, . . . . .	1,395.85	
“ Woodland Hill Fund, . . . . .	2,011.46	
“ Stadium, . . . . .	55,886.08	
“ Sundry Accounts, . . . . .	1,160.48	
	<u>\$1,173,263.79</u>	

Term bills overdue, . . . . . 57,675.59 1,230,939.38

Cash in Adams Trust Co., . . . . .	\$51,692.62	
“ Equitable Trust Co., . . . . .	48,787.87	
“ Merchants National Bank, . . . . .	7,937.54	
“ National Shawmut Bank, . . . . .	25,145.21	
“ National Union Bank, . . . . .	61,719.58	
“ Old Boston National Bank, . . . . .	42,858.31	
“ hands of Charles F. Mason, Bursar, . . . . .	88,217.37	276,358.50
Total, . . . . .	<u>\$18,036,025.71</u>	

*The foregoing Property represents the following Funds and Balances,\* and is answerable for the same.*

Principal, Aug. 1, 1904.	UNIVERSITY FUNDS.	Principal, July 31, 1904.
\$1,143.00	Band Music (1903), . . . . .	\$1,143.00
4,950.00	Andrew Bigelow (1898), . . . . .	4,950.00
5,000.00	Stanton Blake (1899) . . . . .	5,000.00
4,771.33	Charlotte F. Blanchard (1891), . . . . .	4,771.33
5,250.00	Samuel D. Bradford (1868), . . . . .	5,250.00
12,500.00	John W. Carter (1898), . . . . .	12,500.00
154.86	Thomas Cotton (1727), . . . . .	155.10
33,835.06	John Cowdin (1888), . . . . .	33,835.06
115,966.56	George B. Dorr (1882), . . . . .	115,966.56
48,458.50	George Draper (1892), . . . . .	48,458.50
56,787.00	R. H. Eddy (1901) . . . . .	56,787.00
101,225.49	Harvard Ellis (1895), . . . . .	101,225.49
	Richard W. Foster (1905), . . . . .	12,500.00
5,322.09	John Davis Williams French (1901), . . . . .	5,322.09
20,571.18	Gore (1834), . . . . .	20,571.18
25,000.00	John C. Gray (1881), . . . . .	25,000.00
20,000.00	Walter Hastings (1888), . . . . .	20,000.00
5,000.00	George Baxter Hyde (1895), . . . . .	5,000.00
61,142.17	Insurance and Guaranty (1860), . . . . .	36,005.06
16,871.63	Leonard Jarvis ( 859), . . . . .	16,871.63
10,000.00	Henry P. Kidder (1894), . . . . .	10,000.00
10,000.00	Joseph Lee 1803), . . . . .	10,000.00
10,000.00	Theodore Lyman (1896), . . . . .	10,000.00
81,950.54	Henry T. Morgan (1883), . . . . .	81,950.54
15,750.00	Israel Munson (1844), . . . . .	15,750.00
45,105.94	Henry S. Nourse 1904), . . . . .	47,475.66
113,817.44	Francis E. Parker (1886), . . . . .	113,817.44
30,000.00	William Perkins (1888), . . . . .	30,000.00
50,467.79	Henry L. Pierce (1898), . . . . .	50,846.17
205,474.96	Henry L. Pierce (Residuary) (1898), . . . . .	205,474.96
63,652.19	President's (1888), . . . . .	63,750.24
366,416.47	Retiring Allowance (1879), . . . . .	366,416.47
6,000.00	Riverside (1903), . . . . .	6,000.00
23,370.03	John L. Russell (1889), . . . . .	23,370.03
1,930.18	Mary R. Searle (1903), . . . . .	1,901.77
46,913.13	Isaac Sweetser (1894), . . . . .	46,913.13
5,000.00	Seth Turner (1883) . . . . .	5,000.00
50,000.00	Henry Villard 1902), . . . . .	50,000.00
100,000.00	William F. Weld (1893), . . . . .	100,000.00
\$1,779,797.54	. . . Amounts carried forward, . . . . .	\$1,769,973.41

\* The dates of the establishment of the Funds are printed after their titles.

Principal,  
Aug. 1, 1904.

Principal, July 31, 1906.

\$1,779,797.54	Amounts brought forward, . . . . .	\$1,769,978.41
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## \*COLLEGE FUNDS.

9,809.88	John W. P. Abbot (1874), . . .	10,292.53
27,748.64	Alford Professorship (1765), . . .	27,748.64
6,230.00	Daniel Austin (1879), . . . . .	6,230.00
15,000.00	Robert Charles Billings, for Gray Herbarium (1908), . . . . .	15,000.00
1,050.00	John A. Blanchard (1873), . .	1,050.00
39,780.00	Botanic Department (1880), . . .	39,780.00
28,337.40	Boylston Professorship 1772), . .	28,337.40
	Walter Channing Cabot (1905),	50,717.48
11,230.77	Francis James Child Mem.(1897),	11,437.75
7,105.12	Classical Publ. F'd of Class of 1856 (1888), . . . . .	7,105.12
	Class of 1880 (1905), . . . . .	100,409.98
150,445.04	Class Subscription (1870), . . . . .	150,617.54
	Edward W. Codman (1905), . .	321,361.90
939.81	Cryptogamic Herbarium (balance), .	1,429.10
58,568.65	T Jefferson Coolidge, for Re- search in Physics, . . . . .	57,500.00
3,524.75	Paul Dudley 751), . . . . .	3,598.18
104,002.11	Eaton Professorship (1908), . . .	105,051.21
21,619.50	Eliot Professorship 1814), . . . .	21,619.50
10,000.00	Eliot " (Jon. Phillips' gift)(1854), . . . . .	10,000.00
8,500.01	Erving Professorship (1791), . . .	8,500.01
35,990.99	Fisher " (1884), . . . . .	35,990.99
413.67	Henry Flynt (1760), . . . . .	434.04
16,240.38	Fund for Permanent Tutors (1796),	16,240.38
1,038.57	Fund for Religious Services (1887), .	1,038.57
12,812.94	Godkin Lecture (1903 , . . . . .	12,948.84
6,626.77	Gospel Church (1868) . . . . .	6,789.80
989.77	Gray Herbarium (balance), . . . .	1,429.10
32,611.00	Asa Gray Memorial (1898), . . .	32,611.00
21,614.47	Asa Gray Professorship of Systematic Botany (1897), . . . . .	21,646.65
195,789.15	Gurney (1888 . . . . .	196,869.51
5,039.73	George Silsbee and Ellen Sever Hale 1904), . . . . .	5,287.70
15,000.00	Harvard Oriental Series (1899), . .	15,063.00
20,655.91	Herbarium (1865 . . . . .	20,655.91
20,217.08	Hersey Professorship (1772), . . .	20,217.08
21,744.18	Hersey Professorship (Thomas Lee's gift) (1856 . . . . .	21,744.18
34,517.60	Hollis Professorship of Divinity (1726),	34,517.60
3,747.83	Hollis " of Mathematics (1718),	3,747.83
22,723,633.76	Amounts carried forward, . . . . .	\$1,418,960.81 \$1,769,978.41

\* Including some actually used in the Graduate School.

Principal, Aug. 1, 1904.		Principal, July 31, 1906.	
\$2,728,683.76	Amounts brought forward, . . .	\$1,418,960.81	\$1,769,978.41
6,024.09	Ingersoll Lecture (1894) . . .	6,059.47	
1,748.50	Jefferson Physical Lab'y (balance),	2,087.04	
10,664.75	Lectures on Political Economy 1889),	10,737.97	
15,796.97	Lee Fund for Reading (1863) .	15,796.97	
109,012.20	Henry Lee Professorship 1900), .	109,875.59	
7,916.49	Joseph Lovering (1891), . . .	7,999.06	
66,407.81	Lowell Fund for a Botanic Garden (1882) (formerly Professorship of Natural History 1805), . . .	66,407.81	
25,000.00	Arthur T. Lyman (1904), . . .	25,000.00	
43,062.93	McLean Professorship (1884), . .	43,062.93	
1,049.29	Music Department (1908) . . .	1,100.90	
23,706.46	William B. Noble Lectures (1898),	24,294.17	
	Francis Greenwood Peabody Endowment (1905) . . . . .	100,820.02	
14,196.53	Daniel H. Peirce (1876), . . . .	14,266.38	
21,000.00	Perkins Professorship (1841), . .	21,000.00	
31,500.00	Jonathan Phillips (186 ), . . .	31,500.00	
75,000.00	Physical Laboratory Endowm't (1881),	75,000.00	
25,020.19	Plummer Professorship (1854), . .	25,020.19	
52,500.00	Pope " (1868), . . . . .	52,500.00	
224,854.37	Professorship of Hygiene (1899), . .	231,502.63	
515,376.50	Nelson Robinson, Jr. 1899), . .	520,300.72	
56,368.73	Rumford Professorship (1819), . .	56,368.73	
2,000.00	John L. Russell (1889) . . . . .	2,000.00	
60,000.00	Gurdon Saltonstall (1901 , . . .	60,000.00	
4,586.64	George William Sawin (1890),	4,630.90	
683.34	Schol. & Benef. money returned (bal.),	484.48	
30.58	Barthold Schlesinger (1901), .	17.53	
	School for Social Workers (balance), (1904), . . . . .	3,957.17	
23,139.83	Smith Professorship (1816), . . .	23,139.83	
	William M. Spackman (1905),	2,500.00	
13,284.22	Josiah Stirkney (1899), . . . .	13,589.79	
	Teachers' Endowment (1905), . . .	740,255.55	
16,465.04	John E. Thayer (1885), . . . . .	16,592.82	
1,107.04	Elizabeth Torrey (1896), . . .	1,015.14	
11,265.14	Henry Warren Torrey (1890), .	11,254.41	
101,179.70	Unknown Memorial (1898), . . .	101,860.62	
40,000.00	Wales Professorship (1903), . . .	40,000.00	
15,500.00	Samuel Ward (1680), . . . . .	16,233.58	
6,426.78	Cyrus M. Warren (1893), . . .	6,489.34	
120,896.57	Henry C. Warren (1899), . . .	119,999.17	
5,861.07	Sylvester Waterhouse (1896), .	6,149.43	
50,000.00	Increase S. Wheeler (1889), . .	50,000.00	
10.38	Jerome Wheelock (1903), . . .	21.22	
1,027.50	Chauncey Wright (1884), . . .	1,076.10	
\$4,522,742.90	Amounts carried forward, . . .	\$4,080,927.96	\$1,769,978.41

<u>Principal, Aug. 1, 1904.</u>		<u>Principal, July 31, 1905.</u>	
<b>\$4,522,742.90</b>	. . Amounts brought forward, . . .	<b>\$4,080,927.96</b>	<b>\$1,769,978.41</b>
<b>4,875.33</b>	Gifts for Books, Prints, Casts, etc., for Dept. of Architec. (bal.),	<b>2,264.02</b>	
<b>1,427.08</b>	“ Cases, etc., at Botanic Gar- den (balance), . . . . .	<b>1,373.75</b>	
<b>188.17</b>	“ Classical Library (balance),	<b>229.46</b>	
<b>322.52</b>	“ Collections for a Germanic Museum (balance), . . .	<b>322.52</b>	
<b>.13</b>	“ Engineering Department, Elec- trical Apparatus (bal.), .	<b>.13</b>	
<b>3,437.15</b>	“ The Ethics of the Social Questions (bal.), . . . .	<b>4,077.77</b>	
	“ Furnishings of the Depart- ment of The Ethics of the Social Questions (bal.), .	<b>13,014.25</b>	
	“ Furnishing Emerson Hall (bal.), . . . . .	<b>22,390.79</b>	
<b>12.65</b>	“ Physical Research (bal.), .	<b>10.65</b>	
<b>3,556.96</b>	“ Plantation of Shrubs, etc. (bal.),	<b>3,377.56</b>	
<b>1,500.00</b>	“ Salaries (balance), . . . .	<b>375.00</b>	
<b>182.28</b>	“ Sanskrit Department (bal.),	<b>262.32</b>	
<b>870.09</b>	“ Semitic Library (bal.), . .	<b>618.57</b>	
<b>903.67</b>	“ Sugar-cane investigation, etc. (balance), . . . . .	<b>808.64</b>	
<b>3,647.13</b>	Sundry Gifts (unexpended balances),	<b>5,576.62</b>	
<b>FELLOWSHIP FUNDS.</b>			
<b>100.00</b>	Cercle Français de l'Université Har- vard (balance), . . . . .		
<b>5,289.61</b>	George Wales Dillaway (1903),	<b>5,249.88</b>	
<b>11,317.42</b>	Ozias Goodwin Memorial (1889),	<b>11,524.22</b>	
<b>10,861.28</b>	Harris (1868), . . . . .	<b>11,145.64</b>	
	Edward William Hooper (1905),	<b>25,409.98</b>	
<b>11,063.42</b>	John Thornton Kirkland (1871),	<b>10,932.72</b>	
<b>11,510.51</b>	Henry Lee Memorial (1889), . .	<b>11,851.85</b>	
<b>14,100.00</b>	Charles Eliot Norton (1901), .	<b>14,400.00</b>	
<b>12,856.52</b>	Robert Treat Paine (1887), . .	<b>12,989.08</b>	
<b>57,852.37</b>	John Parker (1873), . . . . .	<b>58,949.09</b>	
<b>32,478.55</b>	Rogers (1869), . . . . .	<b>32,264.02</b>	
<b>11,569.45</b>	Henry Bromfield Rogers Memo- rial (1889), . . . . .	<b>11,688.64</b>	
<b>11,824.19</b>	John Tyndall (1885), . . . . .	<b>11,905.93</b>	
<b>11,228.95</b>	James Walker (1881), . . . . .	<b>11,281.42</b>	
<b>23,092.62</b>	Whiting (1896), . . . . .	<b>23,228.80</b>	
<b>SCHOLARSHIP FUNDS.</b>			
<b>3,780.88</b>	Abbot (1852), . . . . .	<b>3,816.91</b>	
<b>2,072.61</b>	Alford (1785), . . . . .	<b>2,174.60</b>	
<b>5,385.24</b>	Bartlett (1881), . . . . .	<b>5,400.18</b>	
<b>\$4,779,049.68</b>	. . Amounts carried forward, . . .	<b>\$4,399,842.97</b>	<b>\$1,769,978.41</b>

Principal, Aug. 1, 1904.		Principal, July 31, 1904.	
\$4,779,049.68	Amounts brought forward, . . .	\$4,899,842.97	\$1,769,978.41
5,701.79	Bassett (1876), . . . . .	5,682.33	
13,106.30	Bigelow (1865), . . . . .	13,351.12	
2,588.78	Borden (1896), . . . . .	2,716.16	
118,740.63	Bowditch (1864), . . . . .	114,353.85	
3,160.37	Bright (balance), . . . . .	3,545.84	
3,894.09	Browne (1887), . . . . .	3,885.67	
5,253.01	Morey Willard Buckminster (1898), . . . . .	5,311.46	
33,563.56	Burr (1895), . . . . .	33,961.59	
6,136.45	Ruliff S. Choate (1884), . . . .	6,163.84	
8,342.59	Class of 1802 (1870), . . . . .	8,428.07	
3,211.57	" 1814 (1853), . . . . .	3,234.60	
6,668.53	" 1815 (Kirkland) (1852), . . .	6,663.29	
4,644.21	" 1817 (1852), . . . . .	4,639.85	
3,554.29	" 1828 (1882), . . . . .	3,529.15	
5,026.73	" 1835 (1853), . . . . .	5,040.72	
5,151.29	" 1841 (1871), . . . . .	5,204.72	
5,150.16	" 1852 (Dana) (1876), . . . .	5,203.54	
15,785.95	" 1856 (1885), . . . . .	15,962.62	
4,763.18	" 1867 (1886), . . . . .	4,822.52	
5,107.00	" 1877 (1902), . . . . .	5,238.26	
5,429.27	" 1883 (1900), . . . . .	6,069.80	
12,074.78	Crowninshield (1877), . . . . .	12,233.87	
700.00	W. H. Cudworth (balance), . . .	600.00	
5,750.17	Francois H. Cummings (1898), . .	5,833.07	
5,637.25	Geo. and Martha Derby (1881), . .	5,581.25	
5,092.47	Julius Dexter (1892), . . . . .	5,168.00	
2,818.57	O. W. Doe 1893), . . . . .	2,857.26	
500.00	Department of Education (balance),		
5,498.64	W. S. Eliot (1875), . . . . .	5,519.19	
41,059.15	Joseph Eveleth (1896), . . . . .	41,459.26	
2,194.98	Fall River (1893), . . . . .	2,196.31	
6,808.80	Farrar (1873), . . . . .	6,369.20	
11,476.58	Richard Augustine Gambrill (1890), . . . . .	11,591.25	
7,681.85	Charles Haven Goodwin (1889), . .	7,759.81	
4,340.07	Greene (1863), . . . . .	4,353.60	
	Price Greenleaf (balance), . . .	120.00	
66.66	Harvard Club of Buffalo (balance),	80.00	
10,170.20	John Appleton Haven (1902), . .	10,430.56	
24,023.61	William Hilton (1897), . . . . .	24,229.54	
10,862.80	Ebenezer Rockwood Hoar (1895), . .	10,930.60	
6,840.98	Levina Hoar (1876), . . . . .	6,502.96	
13,647.27	Hodges 1878), . . . . .	13,690.69	
6,295.54	Hollis (1722), . . . . .	6,380.30	
10,871.92	Henry B. Humphrey (1890), . . .	10,956.82	
30,774.59	C. L. Jones (1901), . . . . .	31,088.72	
\$5,363,215.30	Amounts carried forward, . . .	\$4,888,842.72	\$1,769,978.41

<u>Principal, Aug. 1, 1904.</u>		<u>Principal, July 31, 1906.</u>	
\$5,363,315.80	. . Amounts brought forward, . . .	\$4,868,842.72	\$1,769,978.41
10,433.49	G. E. Lowell (1886), . . . . .	10,546.79	
5,311.08	Markoe (1903), . . . . .	5,317.46	
2,768.78	Matthews (balance), . . . . .	3,285.94	
6,173.38	Merriok (1886), . . . . .	6,252.09	
8,308.52	Morey (1868), . . . . .	8,392.52	
5,824.81	Lady Mowson (1643), . . . . .	5,885.85	
5,744.59	Howard Gardner Nichols (1897),	5,760.58	
5,760.50	Lucy Osgood (1873) . . . . .	6,043.89	
5,007.16	George Foster Peabody (1902),	5,067.84	
6,453.02	Pennoyer (1670), . . . . .	6,725.51	
4,358.89	Perkins (1869) . . . . .	4,423.55	
10,260.61	Philadelphia (1904), . . . . .	10,921.80	
1,523.59	Wendell Phillips Mem'l (1895),	1,559.06	
350.00	Ricardo Prize (balance), . . . . .	350.00	
1,164.31	Rodger (1883), . . . . .	1,221.58	
3,500.83	Henry B. Rogers (1859), . . . . .	3,522.53	
5,753.84	Edward Russell (1877), . . . . .	5,813.49	
5,637.54	Sales (1893) , . . . .	5,681.59	
11,212.19	Saltonstall (1789), . . . . .	11,338.82	
8,553.82	Leverett Saltonstall (1895), . .	8,649.68	
6,923.88	Mary Saltonstall (1730), . . . . .	6,964.54	
3,298.29	Sever (1868), . . . . .	3,260.55	
11,035.30	Sewall (1696), . . . . .	11,178.22	
49,272.54	Shattuck (1854), . . . . .	49,596.77	
6,150.82	Slade (1877) . . . . .	6,120.11	
4,768.66	Dunlap Smith (1903), . . . . .	4,703.30	
4,511.83	Story 1864), . . . . .	4,558.82	
3,873.28	Stoughton (1701), . . . . .	3,035.97	
3,534.85	Swift (1899), . . . . .	3,708.77	
79,008.96	Thayer (1857), . . . . .	79,796.20	
4,255.95	Gorham Thomas (1865), . . . . .	4,315.35	
7,704.90	Toppan (1868), . . . . .	7,783.99	
25,613.61	Townsend (1861), . . . . .	25,873.82	
4,946.04	Walcott 1855), . . . . .	5,089.38	
10,615.87	Christopher M. Weld (1899), .	10,738.18	
5,873.38	Jacob Wendell (1899), . . . . .	5,841.60	
11,773.96	Whiting (1874), . . . . .	11,828.24	
5,000.00	Josiah Dwight Whitney (1904),	5,046.00	
9,315.70	Mary L. Whitney (1903), . . .	9,539.94	
	Charles Wyman (1905), . . . . .	10,123.00	
	Anonymous Gift for Scholarship use,	100.00	
BENEFICIARY AND LOAN FUNDS.			
50,523.68	Rebecca C. Ames (1903), . . .	51,576.57	
575.54	Nathaniel Appleton 1772), . .	603.88	
1,814.01	Frank Bolles Memorial (1894), .	1,908.26	
1,578.42	William Brattle (1717), . . . .	1,578.42	
\$5,687,692.22	. . Amounts carried forward, . . .	\$5,529,967.27	\$1,769,978.41



Principal, Aug. 1, 1904.		Principal, July 31, 1904.	
\$5,687,693.22	Amounts brought forward, . . .	\$5,329,967.27	\$1,769,978.41
1,027.73	Thomas Danforth (1724), . . .	1,078.81	
5,448.73	Moses Day 1880), . . . . .	5,448.73	
	Daniel A. Buckley (1905), . . .	58,511.62	
411.08	John Ellery 738), . . . . .	431.80	
1,333.34	Exhibitions 796), . . . . .	1,333.34	
770.91	Thomas Fitch (1737), . . . . .	808.84	
443.14	Ephraim Flynt (1723), . . . . .	464.94	
154.06	Henry Flynt (1760) . . . . .	161.64	
460.71	Henry Gibbs (1722), . . . . .	483.39	
3,051.74	John Glover (1658), . . . . .	3,201.90	
12,089.09	Price Greenleaf Aid (balance), .	12,387.77	
	Edwin A. W. Harlow 1905), .	1,624.55	
859.16	Edward Holyoke (1743 , . . .	360.46	
2,441.40	Robert Keayne 1659) . . . . .	2,441.40	
26,192.50	Bertram Kimball (1903), . . .	26,230.00	
1,010.37	Mary Lindall 812) . . . . .	1,056.92	
5,988.87	Susan B. Lyman (1899), . . . .	6,283.53	
215.83	Anne Mills 725), . . . . .	236.46	
10,906.81	Munroe (1880), . . . . .	10,906.81	
2,038.54	Palfrey Exhibition (1821), . . .	2,038.86	
4,722.59	Dr A. P. Peabody Memorial (1896),	4,884.96	
205.52	Joseph Sewall (1765), . . . . .	215.65	
14,754.29	Alexander W. Thayer (1899), .	15,000.19	
11,155.10	Quincy Tufts (1877), . . . . .	11,155.10	
277.51	Benjamin Wadsworth (1737), .	291.19	
PRIZE FUNDS.			
	Jeremy Belknap (balance), . . .	50.00	
1,524.39	James Gordon Bennett (1898) .	1,599.37	
	Philo Sherman Bennett (1905),	402.46	
10,134.23	Francis Boott (1904), . . . . .	10,320.82	
20,835.80	Bowdoin Prizes for Dissertations		
	(1791), . . . . .	31,106.13	
3,416.92	Boylston Prizes for Elocution (1817),	3,330.04	
5,288.19	Coolidge Debating (1899), . . . .	5,348.36	
50.00	Dante (balance), . . . . .	50.00	
	Lloyd McKim Garrison Prize		
	and Medal (1904) . . . . .	2,700.00	
1,803.18	Edward Hopkins Gift for "De-		
	turs" (1718) (balance), . . . . .	1,845.47	
1,078.96	Sales (1892), . . . . .	1,087.05	
2,566.85	John O. Sargent (1889), . . . .	2,693.15	
7,000.00	George B. Schier (1890), . . . .	7,000.00	
3,545.97	Charles Sumner (1874), . . . . .	3,620.43	
3,725.47	Robert N. Toppin (1894), . . .	3,908.74	
2,170.66	Philip Washburn (1899), . . .	2,202.47	
110,276.60	David A. Wells (1901), . . . .	114,552.56	5,688,632.18
\$5,976,568.46	Amounts carried forward, . . . . .		\$7,458,610.59

Principal, Aug. 1, 1904.		Principal, July 31, 1904.
\$5,976,568.46	Amounts brought forward, . . . . .	\$7,458,810.59
LIBRARY FUNDS.		
2,135.66	Bowditch (1861), . . . . .	\$2,112.70
112.42	Bright (balance), . . . . .	154.77
641.39	Fund of the Class of 1851 (1899),	672.93
631.56	" " " 1851 (C. F.	
	Dunbar's Gift) (1899), . . . . .	662.65
27,792.28	Edwin Conant (1892), . . . . .	27,797.53
25,940.48	Constantius (1886), . . . . .	25,967.15
5,318.80	Denny (1875), . . . . .	5,323.77
5,346.85	Farrar (1871), . . . . .	5,425.34
3,283.85	Haven (1844), . . . . .	3,308.45
10,055.18	Hayes (1895), . . . . .	10,157.40
5,290.77	Hayward (1864), . . . . .	5,279.53
745.25	R. M. Hodges (balance), . . . . .	1,123.26
2,347.48	Hollis (1781), . . . . .	2,389.81
2,181.50	Homer (1871), . . . . .	2,150.46
517.29	Jarvis (1885), . . . . .	502.86
5,270.15	Lane (1863), . . . . .	5,288.08
26,492.00	Lowell 1881), . . . . .	26,899.26
60,607.32	Minot (1870) . . . . .	60,406.31
	Charles Elliot Norton (1905), .	8,534.83
7,147.16	Lucy Osgood (1878), . . . . .	7,197.08
7,018.71	Mary Osgood (1860), . . . . .	7,082.51
283.86	Price Greenleaf Income for Books	
	(balance), . . . . .	105.33
3,950.15	Sales (1892), . . . . .	3,916.67
5,318.82	Salisbury (1858), . . . . .	5,357.60
20,357.27	Sever (1878), . . . . .	20,152.27
3,949.87	Shapleigh (1801), . . . . .	3,958.31
45.38	George B. Sohler (balance), . .	104.39
10,501.24	Subscription for Library (1859), . .	10,548.85
37,516.98	Sumner 1875), . . . . .	37,684.11
5,142.13	Kenneth Matheson Taylor (1899),	5,158.71
12,228.33	Daniel Treadwell (1895), . . .	12,164.18
5,285.86	Ichabod Tucker (1875), . . . .	5,278.00
175.50	Wales Income for Books (balance),	343.06
15,932.40	Walker 1875), . . . . .	16,032.21
5,287.54	Ward (1858) . . . . .	5,250.41
271.70	Waterston Gift (balance), . . . .	
20,104.08	J Huntington Wolcott (1891),	20,087.02
100,000.00	Eben Wright (1883), . . . . .	100,000.00
1,282.20	Sundry Gifts for books (unexpended	
	balances), . . . . .	2,541.23
320.26	Sundry balances, . . . . .	306.41
		437,425.41
\$6,423,316.94	Amounts carried forward, . . . . .	\$7,916,236.00

Principal, Aug. 1, 1904.		Principal, July 31, 1905.
\$6,428,316.94	Amounts brought forward, . . . . .	\$7,916,336.09

## DIVINITY SCHOOL FUNDS.

14,172.65	Divinity School (balance), . . . . .	\$11,086.73
71,427.02	New Endowment 1879), . . . . .	71,427.02
17,000.00	Oliver Ames (1880) . . . . .	17,000.00
525.00	Hannah C. Andrews (1896), . .	525.00
890.00	Daniel Austin (1880), . . . . .	890.00
1,000.00	Adams Ayer (1869), . . . . .	1,000.00
15,275.00	Joseph Baker (1876), . . . . .	15,275.00
191.35	Beneficiary money returned (balance),	191.35
4,452.34	Rushton Dashwood Burr (1894),	4,452.34
37,583.74	Bussey Professorship (1862), . .	37,583.74
2,177.95	Joshua Clapp (1836) . . . . .	2,177.95
5,000.00	Edwin Conant (1892), . . . . .	5,000.00
25,544.37	Dexter Lectureship 1810), . . .	25,544.37
58,703.14	Frothingham Professorship (1892),	58,703.14
1,050.00	Abraham W. Fuller (1847), . .	1,050.00
911.34	Lewis Gould (1852), . . . . .	911.34
821.29	Louisa J. Hall (1893), . . . . .	821.29
6,008.43	Hancock Professorship (1765), .	6,008.43
77,600.81	Charles L. Hancock (1891), . .	77,600.81
5,000.00	Haven (1896) . . . . .	5,000.00
1,050.00	Samuel Hoar (1857), . . . . .	1,050.00
10,000.00	Henry P. Kidder (1881), . . .	10,000.00
9,184.69	Henry Lienow 1841), . . . . .	9,184.69
1,050.00	Caroline Merriam 1867), . . .	1,050.00
16,015.81	Parkman Professorship 1814), .	16,015.81
555.76	John W. Quinby (1886), . . .	555.76
1,000.00	Abby Crocker Richmond (1881),	1,000.00
1,000.00	John L. Russell (1890) . . . .	1,000.00
10,000.00	William B. Spooner (1890), . .	10,000.00
40,000.00	Thomas Tleston of New York Endowment (1879) . . . . .	40,000.00
5,250.00	Mary P. Townsend (1861), . .	5,250.00
2,100.00	Winthrop Ward (1862), . . . .	2,100.00
55,845.73	Winn Professorship (1877), . . .	55,845.73

## SCHOLARSHIP AND BENEFICIARY FUNDS.

2,509.92	Robert Charles Billings Prize (1904), . . . . .	2,533.41
13,329.12	Abner W. Buttrick (1880), . . .	13,304.98
5,659.06	Thomas Cary (1820) . . . . .	5,697.48
2,758.93	George Chapman 1834), . . . .	2,794.67
4,489.29	Joshua Clapp (1839), . . . . .	4,530.14
14,978.42	Jackson Foundation (1885 , . . .	15,075.83
5,458.01	J. Henry Kendall (1863 , . . .	5,526.54
3,476.69	Nancy Kendall (1846), . . . .	3,507.75
1,050.00	William Pomroy (1835), . . . .	1,050.00
\$6,968,321.21	Amounts carried forward, . . . . .	\$8,460,556.89

Principal, Aug. 1, 1904.		Principal, July 31, 1905.
<b>\$6,968,321.21</b>	. . Amounts brought forward, . . . . .	<b>\$8,460,556.80</b>

## LAW SCHOOL FUNDS.

281,556.95	Law School (balance), . . . . .	\$322,908.17	
	James Barr Ames Loan (1904),	522.53	
3,705.23	James Barr Ames Prize (1898),	3,864.97	
71,161.66	Bemis Professorship (1879), . . .	74,662.83	
23,979.82	Bussey " (1862), . . .	23,979.82	
15,750.00	Dane " (1829), . . .	15,750.00	
525.92	Hughes Loan (1903), . . . . .	66.17	
47,021.25	Law School Book (1882), . . . . .	47,021.25	
75.00	Law School Exhibition, . . . . .		
100,000.00	Law School Library (1898), . . . .	100,000.00	
8,340.81	Royall Professorship (1781), . . .	8,340.81	
1,967.22	Scholarship money returned (balance),	1,087.01	
94,994.97	Weld Professorship (1882), . . .	94,994.97	693,198.53

## LAWRENCE SCIENTIFIC SCHOOL FUNDS.

724.20	Edward Austin Loans repaid (bal.),	\$1,222.24	
30,686.85	John B. Barringer (1873), . . .	30,686.85	
475.00	George H. Emerson Scholarship (1903), . . . . .	6,142.56	
5,634.60	George A. Gardner (1892), . .	5,767.19	
10,818.87	Hennen Jennings Scholarship (1898),	10,951.16	
61,536.43	Abbott Lawrence (1859), . . .	61,536.48	
50,375.00	James Lawrence (1865), . . . .	50,375.00	
360.55	Lawrence Scientific School Loans repaid (balance), . . . . .	527.52	
40,805.73	Professorship of Engineering (1847),	40,805.73	
25,000.00	Arthur Rotch (1895), . . . . .	25,000.00	
5,614.91	Stuart Wadsworth Wheeler (1898),	5,799.69	
150.00	Lawrence Scientific School Associ- ation Scholarship (balance), . . .		238,814.37

## MUSEUM OF COMPARATIVE ZOÖLOGY FUNDS.

28,154.73	Museum of Comparative Zoölogy (bal.),	\$32,306.32	
297,933.10	Agassiz Memorial (1875), . . . .	297,933.10	
7,594.01	Teachers' and Pupils' (1875), . . .	7,594.01	
5,532.41	Virginia Barret Gibbs Scholar- ship (1892), . . . . .	5,554.58	
50,000.00	Gray Fund for Zoölogical Museum (1859), . . . . .	50,000.00	
108,464.41	Sturgis Hooper (1865), . . . .	108,720.83	
7,740.66	Humboldt (1869), . . . . .	7,740.66	
5,000.00	Willard Peele Hunnewell (1901),	5,000.00	
117,469.34	Permanent (1859), . . . . .	117,469.34	632,318.84
<b>\$8,477,470.84</b>	. . Amounts carried forward, . . . . .	<b>\$10,024,888.54</b>	

Principal, Aug. 1, 1904.		Principal, July 31, 1904.
\$8,477,470.84	Amounts brought forward, . . . . .	\$10,024,888.54

**PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY  
AND ETHNOLOGY FUNDS.**

12,132.16	Hemenway Fellowship (1891), . .	\$12,229.05	
28,355.56	Peabody Building (1866) . . .	28,355.56	
47,835.10	Peabody Collection (1866), . . .	47,835.10	
47,555.07	Peabody Professor (1866), . . .	47,597.25	
30,173.37	Thaw Fellowship (1890), . . . .	30,188.44	
10,875.56	Henry C. Warren Exploration (1899), . . . . .	10,891.06	
5,000.00	Susan Cornelia Warren (1902),	5,000.00	
5,671.23	Robert C. Winthrop Scholarship (1895), . . . . .	5,830.23	
20,675.57	Huntington Frothingham Wol- cott (1891), . . . . .	20,802.76	207,729.45

**MEDICAL SCHOOL FUNDS.**

20,414.50	Medical School (balance), . . . . .	\$5,560.57	
11,098.88	Edward Austin (Bacteriological Laboratory) (1899), . . . . .	11,324.85	
25,512.68	Edward M. Barringer (1881), . .	25,512.68	
6,111.37	J Ingersoll Bowditch (1889), . .	6,264.02	
2,161.85	Boylston Fund for Medical Books (1800), . . . . .	1,891.49	
21,349.46	John B. & Buckminster Brown Endowment 1896), . . . . .	21,899.83	
92,551.59	Caroline Brewer Croft (1899),	93,945.52	
381,845.29	Calvin and Lucy Ellis (1899), . .	382,728.64	
101,885.42	George Fabyan (1896), . . . . .	101,917.84	
1,836.08	Samuel E. Fitz (1884), . . . . .	1,836.08	
2,922.83	F B. Greenough (Surgical Re- search) (1901), . . . . .	3,573.82	
19,192.65	Jackson Medical (1859), . . . . .	19,192.65	
1,843.73	Medical Library (1872) . . . . .	1,984.45	
52,923.66	William O. Moseley (1897), . . .	53,027.52	
38,750.00	New Subscription (1888), . . . . .	38,750.00	
9,385.94	Dr Rupperer (1897), . . . . .	9,385.94	
50,000.00	Geo. C. Shattuck (1853), . . . . .	50,000.00	
6,871.42	Surgical Laboratory (1897), . . . .	7,167.76	
15,765.11	Mary W Swett (1884), . . . . .	15,765.11	
20,000.00	Samuel W. Swett (1884), . . . . .	20,000.00	
2,000.00	Quincy Tufts (1879), . . . . .	2,000.00	
14,032.96	Warren Fund for Anatomical Mu- seum 1848) . . . . .	14,095.33	
41,908.00	Charles Wilder (1900), . . . . .	41,968.00	
35,629.90	Henry Willard Williams (1898),	37,382.90	
\$9,670,682.27	. . Amounts carried forward, . . .	\$967,075.00	\$10,232,617.99

Principal, Aug. 1, 1904.		Principal, July 31, 1905.	
\$9,670,682.27	Amounts brought forward, . . .	\$967,075.00	\$10,232,617.99
509.68	Gifts for Anatomical Research (bal.),	508.42	
688.28	Gifts for Pathological Dep't Library (balance), . . . . .	16.26	
1,885.51	Sundry Gifts (unexpended balances),	4,475.08	
FELLOWSHIP FUNDS.			
5,375.10	Geo. Cheyne Shattuck Memorial (1891), . . . . .	5,414.55	
5,704.74	Charles Eliot Ware Memorial (1891), . . . . .	5,850.48	
5,830.16	John Ware Memorial (1891), . .	5,367.40	
SCHOLARSHIP FUNDS.			
	Anonymous Aid (1905), . . . . .	5,183.28	
5,150.85	Lucius F. Billings (1900), . . .	5,204.28	
5,780.60	D. W. Cheever (1889), . . . . .	5,815.03	
3,159.98	Cotting Gift (1900), . . . . .	3,190.45	
2,820.68	Orlando W. Doe (1893), . . . .	2,859.48	
151.27	John Foster income for Medical Students (balance), . . . . .	1.27	
5,783.12	Lewis and Harriet Hayden (1894),	5,749.17	
6,424.88	C. M. Jones (1893), . . . . .	6,490.99	
5,386.61	Alfred Hosmer Linder (1895),	5,581.65	
8,584.48	Joseph Pearson Oliver (1904), .	8,681.81	
5,711.21	Charles B. Porter (1897), . . .	5,792.19	
4,758.86	Charles Pratt Strong (1894), .	4,887.76	
6,548.54	Isaac Sweetser (1892), . . . .	6,520.75	
5,300.69	John Thompson Taylor (1899),	5,361.50	
5,410.05	Edward Wigglesworth (1897), .	5,476.22	
PRIZE FUNDS.			
3,773.63	Boylston (1803), . . . . .	3,796.81	
7,137.23	William H. Thorndike (1895),	7,488.37	1,076,688.05
MEDICAL SCHOOL UNDERTAKING FUNDS.			
109,301.69	Robert C. Billings (1900), . . .	\$114,679.35	
26,585.79	George Fabyan (addition of 1903),	27,893.82	
101,908.49	George Higginson Professorship (1902), . . . . .	102,422.86	
89,293.73	Henry Jackson Endowment (for- merly Robert Bacon), . . . .	93,686.99	
25,000.00	Jackson Professorship (add. of 1902),	25,000.00	
160,694.91	J. Pierpont Morgan Gift, . . .		
388,462.62	Henry L. Pierce (1898), . . . .	407,575.00	
53,576.58	Proctor (1903), . . . . .	55,403.64	
1,071,366.41	John D. Rockefeller Gift (1902),	1,124,077.62	
55,406.28	David Sears Gift (1902), . . . .		
\$11,853,649.87	Amounts carried forward, . . .	\$1,950,738.78	\$11,809,806.04

Principal, Aug. 1, 1904.		Principal, July 31, 1906.
\$11,858,649.87	Amounts brought forward, . .	\$1,950,788.78 \$11,809,806.04
26,000.00	Shattuck Professorship (addition of 1902), . .	27,000.00
109,468.91	James Stillman Professorship (1902),	114,854.78
4,860.68	School of Comparative Medicine (1899),	5,099.84
5,351.53	Gift for Pathological Laboratory, .	5,555.21
		<u>2,108,248.61</u>

## DENTAL SCHOOL FUNDS.

30,464.99	Dental School (balance), . . . . .	\$11,346.78	
2,265.85	Dental School Endowment (1880), .	2,265.85	
23,000.00	Henry C. Warren Endowment (1889),	23,000.00	
21,804.78	Gifts for Building (1892), . . . . .	9,615.28	46,227.86

## OBSERVATORY FUNDS.

50,885.00	Advancement of Astron. Science (1901),	\$50,460.00	
21,554.91	Advancement of Astron. Science (1902),	20,212.51	
8,468.87	Anonymous Gift (1902), . . . . .		
5,000.00	Thomas G. Appleton (1884), .	5,000.00	
2,500.00	J. Ingersoll Bowditch (1889), .	2,500.00	
200,000.00	Uriah A. Boyden (1887), . . . . .	200,000.00	
270.93	Draper Memorial (balance), . .	547.55	
2,000.00	Charlotte Harris (1877), . . . . .	2,000.00	
45,000.00	Haven (1898), . . . . .	45,000.00	
21,000.00	James Hayward (1866), . . . . .	21,000.00	
50,000.00	Observatory Endowment (1882), .	50,000.00	
50,000.00	Paine Professorship 1886), . .	50,000.00	
278,932.07	Robert Treat Paine (1886), . .	278,932.07	
110,293.88	Edward B. Phillips (1849), . .	110,293.88	
13,462.77	Josiah Quincy (1866), . . . . .	14,125.15	
38,267.68	David Sears (1845), . . . . .	39,209.08	
18,880.00	Augustus Story (1871), . . . . .	18,880.00	
42.35	Gift for publishing lunar photographs,	42.35	897,702.54

## BUSSEY INSTITUTION FUNDS.

28,566.18	Bussey Institution (balance), . .	\$37,143.83	
19,225.38	Woodland Hill (1895), . . . . .	18,647.40	45,791.23

## ARNOLD ARBORETUM FUNDS.

124,095.00	Arnold Arboretum (1899), . . . . .	\$124,930.00	
160,082.99	James Arnold (1872) . . . . .	160,486.79	
19,050.52	Arboretum Construction Gifts (bal.), .	23,905.81	
12,500.00	Robert Charles Billings 1904),	12,500.00	
23,790.12	William L. Bradley (1891) . .	23,288.59	
2,308.06	Bussey Fund for the Arnold Arboretum (1903), . . . . .	2,308.06	
	Gift for books (balance), . . . . .	3,280.79	355,700.04
\$13,872,042.71	Amounts carried forward, . . . . .	\$14,757,976.32	

Principal, Aug. 1, 1904.		Principal, July 31, 1906.
\$13,872,042.71	Amounts brought forward, . . . . .	\$14,757,976.82

## OTHER FUNDS FOR SPECIAL PURPOSES.

## PHILLIPS BROOKS HOUSE.

10,506.66	Phillips Brooks House Endowment (1901), . . . . .	\$10,506.66
11,024.22	Ralph H. Shepard (1900), . . .	11,843.64
6,468.31	Ralph H. Shepard Memorial (1898),	6,786.54
5,819.92	John W. and Belinda L. Randall (1897), . . . . .	5,706.27

## WILLIAM HAYES FOGG ART MUSEUM.

108.53	Fogg Art Museum (balance), . . .	475.19
50,000.00	William Hayes Fogg (1892), .	50,000.00
16,248.66	Gray Fund for Engravings (1858),	16,463.12
16,678.80	William M. Pritchard (1898), .	17,445.05
33,968.98	John Witt Randall (1892), . . .	34,252.74

## STILLMAN INFIRMARY.

	Stillman Infirmary (balance), . .	2,812.98
7,447.10	Stillman Infirmary Gift (balance),	5,274.92
50,000.00	Robert Charles Billings, for Stillman Infirmary (1903), . .	52,460.00
5,328.63	Free Bed Fund of the Class of 1868 (1898), . . . . .	5,590.82
589.38	Free Bed Fund for Stillman Infirmary (1900) . . . . .	565.90
3,000.00	Herbert Schurz Memorial Free Bed (1903) . . . . .	3,147.60
2,645.64	Henry P. Walcott (1901), . . .	2,775.82

## CLASS FUNDS.

1,364.32	Fund of the Class of 1834 (1887),	1,422.23
7,982.63	" " " 1844 (1896),	8,315.59
	" " " 1846 (1905),	10,744.45
3,725.00	" " " 1853 (1887),	3,725.00
7,678.87	" " " 1856 (1904),	7,869.00

## CONSTRUCTION GIFTS.

421.74	Brighton Marsh Fence (balance), . .	421.74
152,685.01	Emerson Hall, " . .	50,798.38
1,106.29	Semitic Building, " . .	447.26
1,232.47	John Simpkins Hall, " . .	287.17
257,607.87	George Smith Bequest (1904), .	278,118.57
69,190.30	Stillman Infirmary (Contagious Ward) (balance), . . . . .	3,146.41
20,436.10	Gift for new University Library Building (balance), . . . . .	31,306.15
1,460.12	University Museum Building (balance),	

\$14,116,707.76	Amounts carried forward, . . .	\$616,729.15 \$14,757,976.82
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TABLE NO. I, THE UNIVERSITY, CONTINUED.

## PAYMENTS.

Amounts brought forward, . . . . .		\$14,703.89	\$1,749.97
<b>Office Expenses (continued).</b>			
Inspector of Grounds and Buildings,			
Clerical and other services, . . . . .		\$1,045.00	
Other expenses, . . . . .		176.27	1,221.27
Janitor's, . . . . .			53.73
Corporation Rooms (fuel, rent, &c.), . . . . .		2,539.35	18,517.74
<b>Salaries.</b>			
President,			
From the University, . . . . .		\$6,000.00	
" President's Fund, . . . . .		8,033.63	
" Thomas Cotton Fund, . . . . .		7.39	\$9,041.02
Treasurer, . . . . .			6,000.00
Comptroller, . . . . .			5,000.00
Bursar, . . . . .			4,000.00
Assistant Bursar, . . . . .			2,000.00
Secretary to the President, . . . . .			2,500.00
Secretary of the Board of Overseers, . . . . .			200.00
Commencement Marshal, . . . . .			100.00
Secretary for Appointments, . . . . .			1,500.00
Chairman of the Parietal Board, . . . . .			400.00
Medical Visitor, . . . . .			3,000.00
Publication Agent, . . . . .			2,500.00
Inspector of Grounds and Buildings, . . . . .			3,500.00
Clerks, Treasurer's office, . . . . .			3,800.00
Bursar's Assistant, . . . . .		1,800.00	45,841.02
<b>Retiring Allowances.</b>			
From Retiring Allowance Fund, . . . . .		\$18,027.66	
" University income, . . . . .		4,962.45	22,990.11
<b>Memorial Hall and Sanders Theatre.</b>			
Repairs, . . . . .		\$2,765.79	
Fire escape, . . . . .		827.23	
Insurance, . . . . .		1,352.75	
Fuel, lighting, furniture, cleaning, &c., . . . . .		454.99	5,400.76
<b>Payments made from University income on the following accounts : —</b>			
Peabody Museum of American Archaeology and			
Ethnology (part, see Table XIV, page 112), . .		\$1,263.44	
Semitic Museum (part, see Table XV, page 113),		1,590.84	
Germanic Museum (part, see Table XVI, page 114),		865.48	
William Hayes Fogg Art Museum (part, see			
Table XVII, page 114), . . . . .		2,816.99	
Appleton Chapel (part, see Table XIX, page 116),		6,425.20	
Phillips Brooks House (part, see Table XX,			
page 117), . . . . .		2,123.00	15,084.95
Amount carried forward, . . . . .			\$109,084.55

TABLE NO. I, THE UNIVERSITY, CONTINUED.

## PAYMENTS.

Amount brought forward, . . . . .		\$109,084.55
<b>General Expenses.</b>		
Repairs and improvements, . . . . .	\$1,916.40	
Labor, . . . . .	6,811.33	
Watering streets and driveways, . . . . .	292.98	
Advertising, . . . . .	113.84	
Watchmen, . . . . .	2,396.98	
Commencement Day expenses, . . . . .	680.86	
Expenses of Medical Visitor, . . . . .	160.56	
Annual Catalogue, . . . . .	2,485.86	
Quinquennial Catalogue, . . . . .	4,028.51	
Calendar, . . . . .	223.10	
Plank walks, . . . . .	100.00	
Driveways and gravel walks, . . . . .	41.97	
Sidewalk assessment, . . . . .	856.59	
Sewer assessment, . . . . .	710.77	
Fence expenses, . . . . .	52.00	
Diplomas, . . . . .	6.60	
Receptions, . . . . .	880.65	
Expenses on portraits, . . . . .	194.19	
Photographs, . . . . .	40.70	
Setting bust of President Walker, . . . . .	94.05	
Conference, Association of American Universities, .	32.50	
Mercantile agency, . . . . .	925.00	
Taxes on Harvard Union, . . . . .	\$4,564.50	
Less repaid by Harvard Union, . . . . .	4,564.50	
St. Louis Exposition expenses, . . . . .	1,816.71	
Freight, supplies, and sundries, . . . . .	568.16	23,980.26
		<u>\$183,014.81</u>

TABLE NO. II.

## THE COLLEGE.

## RECEIPTS.

## Gifts for Capital Account.

Philo Sherman Bennett Prize Fund, . . .	\$400.00
Daniel A. Buckley Fund, . . . . .	55,886.52
Walter Channing Cabot Fund, . . . . .	50,000.00
Francis James Child Memorial Fund (addi- tional), . . . . .	50.00
Class Subscription Fund (additional), . . . . .	172.50
Class of 1880 Fund, . . . . .	100,000.00
Amount carried forward, . . . . .	<u>\$206,509.02</u>

## TABLE NO. II, THE COLLEGE, CONTINUED.

## RECEIPTS.

Amount brought forward, . . . . . \$206,509.02

Gifts for Capital Account (*continued*).

Edward W. Codman Fund, . . . . .	321,361.90	
George H. Emerson Scholarship Fund, . .	5,862.76	
Lloyd McKim Garrison Prize and Medal Fund, .	2,700.00	
Edwin A. W. Harlow Fund, . . . . .	1,607.57	
Edward William Hooper Fellowship Fund, .	25,000.00	
Francis Greenwood Peabody Endowment, .	100,000.00	
The Philadelphia Scholarship Fund (additional), .	550.00	
William M. Spackman Fund, . . . . .	2,500.00	
Teachers' Endowment Fund, . . . . .	786,225.28	
Jerome Wheelock Fund (additional), . . .	10.00	
Charles Wyman Scholarship Fund, . . . .	10,000.00	\$1,412,326.53

Income of Funds for Instruction, and Gifts for Salaries.

Alford Professorship, . . . . .	\$1,865.25	
John B. Barringer, . . . . .	1,509.80	
Boylston Professorship, . . . . .	1,394.18	
Walter Channing Cabot, . . . . .	717.48	
Class of 1880, . . . . .	409.98	
Class Subscription, . . . . .	7,402.24	
Paul Dudley, . . . . .	173.43	
Eaton Professorship, . . . . .	5,049.10	
Eliot Professorship, . . . . .	1,063.65	
Eliot " (Jon. Phillips' Gift), . .	350.00	
Calvin and Lucy Ellis Aid (part), . . . .	3,895.41	
Erving Professorship, . . . . .	172.20	
Fisher " . . . . .	1,770.76	
Henry Flynt, . . . . .	20.37	
Fund for Permanent Tutors, . . . . .	799.01	
Godkin Lecture, . . . . .	630.40	
Gospel Church ( $\frac{1}{2}$ income), . . . . .	163.02	
Asa Gray Professorship, . . . . .	1,055.39	
Gurney (part), . . . . .	8,630.36	
Hersey Professorship ( $\frac{3}{4}$ income), . . . . .	596.81	
Hollis " (Divinity), . . . . .	1,698.28	
Hollis " (Mathematics), . . . . .	184.35	
Ingersoll Lecture (part), . . . . .	235.38	
Abbott Lawrence, . . . . .	3,027.57	
James Lawrence, . . . . .	2,478.45	
Lectures on Political Economy, . . . . .	524.72	
Henry Lee Professorship, . . . . .	5,363.39	
Thos. Lee, for Hersey Professorship, . . . .	1,069.80	
Thos. Lee, for Reading, . . . . .	777.21	
Arthur T. Lyman, . . . . .	1,279.25	
McLean Professorship, . . . . .	2,118.70	

Amounts carried forward, . . . . . \$55,925.94 \$1,412,326.53

## TABLE NO. II, THE COLLEGE, CONTINUED.

## RECEIPTS.

Amounts brought forward, . . . . \$55,925.94 \$1,412,826.58

## Income of Funds for Instruction, and Gifts for Salaries

(continued).

## William Belden Noble Lectures.

Interest, . . . . .	\$1,166.84	
Sales, . . . . .	21.87	1,187.71
Daniel H. Peirce, . . . . .		698.49
Perkins Professorship, . . . . .		1,088.20
Plummer " . . . . .		1,280.98
Pope " . . . . .		2,583.00
Professorship of Engineering, . . . . .		2,007.66
Professorship of Hygiene (part), . . . . .		8,008.45
Nelson Robinson Jr. (part), . . . . .		11,674.22
Arthur Rotch, . . . . .		1,230.00
Rumford Professorship, . . . . .		2,778.86
Gurdon Saltonstall, . . . . .		2,952.00
Smith Professorship, . . . . .		1,138.49
Josiah Stickney, . . . . .		653.57
Teachers' Endowment, . . . . .		4,080.27
Unknown Memorial (part), . . . . .		3,178.06
Wales Professorship (part), . . . . .		1,500.00
Henry C. Warren (part), . . . . .		4,800.00
Sylvester Waterhouse, . . . . .		288.86
David Ames Wells (part), . . . . .		4,000.00
Jerome Wheelock, . . . . .		.84
Gifts for salaries and lectures, . . . . .	3,087.00	113,426.60

## Income of Funds for General Purposes.

J. W. P. Abbot (accumulating), . . . . .	\$482.65	
John A. Blanchard, . . . . .	51.66	
Edward W. Codman, . . . . .	4,842.39	
Charles L. Hancock (part), . . . . .	824.10	
Jonathan Phillips, . . . . .	1,549.80	
William M. Spackman, . . . . .	51.27	6,801.87

## Income of Fellowship Funds, and Gifts for Fellowships.

Julia Amory Appleton (gift), . . . . .	\$1,000.00
Edward Austin (part), . . . . .	2,000.00
Austin Teaching (part), . . . . .	15,000.00
Cercle Français de l'Université Harvard (gift), . . . . .	500.00
George W. Dillaway, . . . . .	260.27
Ozias Goodwin Memorial, . . . . .	556.80
Harris, . . . . .	534.86
Edward William Hooper, . . . . .	409.98
John Thornton Kirkland, . . . . .	544.30
Henry Lee Memorial, . . . . .	566.34

Amounts carried forward, . . . . \$21,872.05 \$1,532,555.00

TABLE NO. II, THE COLLEGE, CONTINUED.

## RECEIPTS.

Amounts brought forward, . . . . \$21,372.05 \$1,532,555.01

## Income of Fellowship Funds. and Gifts for Fellowships

(continued).

Charles Eliot Norton, . . . . .	600.00	
Robert Treat Paine, . . . . .	632.56	
John Parker, . . . . .	2,821.72	
Nelson Robinson Jr. (part), . . . . .	1,000.00	
Rogers, . . . . .	1,597.97	
Henry Bromfield Rogers Memorial, . . . .	569.19	
South End House (gifts), . . . . .	370.00	
John Tyndall, . . . . .	581.74	
James Walker, . . . . .	552.47	
Whiting, . . . . .	1,136.18	31,283.81

## Income of Scholarship Funds, and Gifts for Scholarships.

Abbot, . . . . .	\$186.03
Alford (accumulating), . . . . .	101.99
Austin (part), Architecture, . . . . .	600.00
Austin (part), Landscape Architecture, . . . .	300.00
Austin (part), for Teachers, . . . . .	2,540.68
Bartlett, . . . . .	264.94
Bassett, . . . . .	280.54
Bigelow, . . . . .	644.82
Borden (accumulating), . . . . .	127.38
Bowditch, . . . . .	5,596.06
Bright, . . . . .	1,385.47
Browne, . . . . .	191.58
Morey Willard Buckminster, . . . . .	258.45
Burr, . . . . .	1,651.35
Ruluff Sterling Choate, . . . . .	301.89
Class of 1802, . . . . .	410.48
“ 1814, . . . . .	158.08
“ 1815 (Kirkland), . . . . .	328.11
“ 1817, . . . . .	228.48
“ 1828, . . . . .	174.86
“ 1835, . . . . .	247.33
“ 1841, . . . . .	253.43
“ 1852 (Dana), . . . . .	253.38
“ 1856, . . . . .	776.67
“ 1867, . . . . .	234.34
“ 1877, . . . . .	251.26
“ 1883, . . . . .	399.70
Crowninshield, . . . . .	594.09
Warren H. Cudworth (gift), . . . . .	600.00
Francis H. Cummings, . . . . .	282.90
George and Martha Derby, . . . . .	277.34

Amounts carried forward, . . . . \$19,901.58 \$1,563,788.88

## TABLE NO. II, THE COLLEGE, CONTINUED.

## RECEIPTS.

Amounts brought forward, . . . . \$19,901.58 \$1,563,788.88

Income of Scholarship Funds, and Gifts for Scholarships  
(continued).

Julius Dexter, . . . . .	250.53
Orlando W. Doe, . . . . .	138.69
William Samuel Eliot, . . . . .	270.55
George H. Emerson (part), . . . . .	954.80
Joseph Eveleth (part), . . . . .	1,420.10
Fall River, . . . . .	107.99
Farrar, . . . . .	310.40
Richard Augustine Gambrill, . . . . .	564.67
Charles Haven Goodwin, . . . . .	377.96
Benjamin D. Greene, . . . . .	213.58
Price Greenleaf (part), . . . . .	3,000.00
Harvard Club of Buffalo (gift), . . . . .	200.00
“ “ Chicago “ . . . . .	300.00
“ “ Louisiana (gift), . . . . .	266.30
“ “ San Francisco (gift), . . . . .	300.00
“ “ St. Louis “ . . . . .	300.00
John Appleton Haven, . . . . .	500.86
William Hilton (part), . . . . .	641.93
Ebenezer Rockwood Hoar, . . . . .	534.46
Levina Hoar, for the town of Lincoln, . . . . .	311.98
Hodges (part), . . . . .	298.42
Hollis, . . . . .	309.76
Henry B. Humphrey, . . . . .	534.90
Hennen Jennings, . . . . .	532.29
C. L. Jones, . . . . .	1,514.18
Lawrence Scientific School Association (gift), . . . . .	150.00
George Emerson Lowell, . . . . .	513.30
Markoe, . . . . .	256.88
Matthews ( $\frac{1}{2}$ net rents of Hall), . . . . .	5,217.16
William Merrick, . . . . .	303.71
Morey, . . . . .	408.80
Lady Mowlson, . . . . .	286.54
Howard Gardner Nichols, . . . . .	282.65
Lucy Osgood, . . . . .	283.39
George Foster Peabody, . . . . .	310.18
Pennoyer, . . . . .	317.49
Perkins, . . . . .	214.46
Philadelphia, . . . . .	511.19
Wendell Phillips, . . . . .	75.47
Ricardo Prize (gift), . . . . .	350.00
Rodger, . . . . .	57.27
Henry Bromfield Rogers, . . . . .	172.20

Amounts carried forward, . . . . \$43,760.52 \$1,563,788.88

## TABLE NO. II, THE COLLEGE, CONTINUED.

## RECEIPTS.

Amounts brought forward, . . . . \$43,760.52 \$1,563,788.88

## Income of Scholarship Funds, and Gifts for Scholarships

(continued).

Edward Russell, . . . . .	283.15	
Sales, . . . . .	277.39	
Saltonstall, . . . . .	551.63	
Leverett Saltonstall, . . . . .	420.86	
Mary Saltonstall, . . . . .	340.66	
Savage (part), . . . . .	300.00	
Sever, . . . . .	162.26	
Sewall, . . . . .	542.92	
Shattuck, . . . . .	2,424.23	
Slade, . . . . .	302.63	
Dunlap Smith, . . . . .	203.30	
Story, . . . . .	221.99	
Stoughton, Use of pasture, . . . . .	\$100.00	
Interest (part), . . . . .	62.69	162.69
Swift, . . . . .		173.92
Thayer, . . . . .		3,887.24
Gorham Thomas, . . . . .		209.40
Toppan, . . . . .		379.09
Townsend, . . . . .		1,260.21
Walcott, . . . . .		243.34
Christopher M. Weld, . . . . .		522.31
Jacob Wendell, . . . . .		269.22
Whiting, . . . . .		579.28
Josiah Dwight Whitney, . . . . .		246.00
Mary L. Whitney, . . . . .		524.24
Charles Wyman, . . . . .		123.00
Anonymous Gift for Scholarship use, . . . . .		100.00
		<b>58,471.48</b>

## Income of Beneficiary and Loan Funds, and Repayments.

Rebecca C. Ames, . . . . .	\$2,485.73	
Nathaniel Appleton, . . . . .	28.34	
Edward Austin.		
Interest (part), . . . . .	\$881.47	
Loans repaid by Special Students, . . . . .	384.62	1,266.09
Edward Austin Loans (L. S. S.), repayments, . . . . .		938.04
Frank Bolles Memorial, . . . . .		89.25
William Brattle, . . . . .		77.64
Daniel A. Buckley, . . . . .		2,625.10
Thomas Danforth, . . . . .		50.58
Moses Day, . . . . .		268.09
Calvin and Lucy Ellis Aid (part), . . . . .		2,902.13
John Ellery, . . . . .		20.22
Exhibitions, . . . . .		65.58

Amounts carried forward, . . . . \$10,816.79 \$1,622,260.36

## TABLE NO. II, THE COLLEGE, CONTINUED.

## RECEIPTS.

Amounts brought forward, . . . \$10,816.79 \$1,622,260.36

## Income of Beneficiary and Loan Funds, and Repayments

(continued).

Thomas Fitch, . . . . .	37.98
Ephraim Flynt, . . . . .	21.80
Henry Flynt, . . . . .	7.58
Henry Gibbs, . . . . .	22.68
John Glover, . . . . .	150.16

## Price Greenleaf Aid (balance).

Interest (part), . . . . . \$16,728.14

Repayment, . . . . . 125.00 16,848.14

Edwin A. W. Harlow, . . . . . 16.98

Edward Holyoke, . . . . . 17.66

Robert Keayne, . . . . . 120.10

Bertram Kimball, . . . . . 1,280.00

Lawrence Scientific School Loans, repayments, 1,084.20

Mary Lindall, . . . . . 49.69

Susan B. Lyman, . . . . . 294.66

Anne Mills, . . . . . 10.68

Munroe (part), . . . . . 526.62

Palfrey Exhibition, . . . . . 100.82

Dr. Andrew P. Peabody Memorial, . . . . 232.87

## Scholarship and Beneficiary Money Returned.

Loans repaid, . . . . . 1,485.14

Joseph Sewall, . . . . . 10.18

Alexander W. Thayer (part), . . . . . 245.90

Quincy Tufts, . . . . . 548.83

Benjamin Wadsworth, . . . . . 18.68

Samuel Ward (part), . . . . . 28.97

## Stuart Wadsworth Wheeler.

Interest, . . . . . \$276.26

Loans repaid, . . . . . 108.52 384.78

34,205.74

## Income of Prize Funds, and gifts for prizes.

Anonymous, English 18 (gift), . . . . . \$25.00

Jeremy Belknap (gift), . . . . . 50.00

James Gordon Bennett, . . . . . 74.98

Philo Sherman Bennett, . . . . . 2.46

Francis Boott, . . . . . 498.59

Bowdoin Prizes for Dissertations, . . . . 1,517.13

Boylston Prizes for Elocution, . . . . . 168.12

Coolidge Debating, . . . . . 260.17

Lloyd McKim Garrison, . . . . . 88.56

## Edward Hopkins Gift for "Deturs."

From Trustees, . . . . . \$207.25

Interest on unexpended balance, . . . . 88.71 295.96

Amounts carried forward, . . . . . \$2,980.97 \$1,656,466.10



TABLE NO. II, THE COLLEGE, CONTINUED.

## RECEIPTS.

Amounts brought forward, . . .		\$2,980.97	\$1,656,466.10
<b>Income of Prize Funds, etc. (continued).</b>			
Sales, . . . . .		53.09	
John O. Sargent, . . . . .		126.30	
George B. Sohler (part), . . . . .		250.00	
Charles Sumner, . . . . .		174.46	
Robert N. Toppan, . . . . .		183.27	
Philip Washburn, . . . . .		106.81	
David Ames Wells (part), . . . . .		1,385.04	5,259.94
<b>Income of Sundry Funds for Special Purposes.</b>			
Botanic Department, $\frac{1}{4}$ for Cryptogamic Herbarium, . . . . .		\$489.29	
“ “ $\frac{1}{4}$ for Laboratories of Botany, . . . . .		244.65	
Francis James Child Memorial, . . . . .		556.75	
<b>Classical Publication Fund of the Class of 1856.</b>			
Interest, . . . . .	\$349.57		
Sales, . . . . .	206.20	555.77	
George A. Gardner, . . . . .		277.24	
George Silsbee and Ellen Sever Hale, . . . . .		247.97	
Harvard Oriental Series, . . . . .		788.00	
Ingersoll Lecture (part), . . . . .		61.00	
Musical Department, . . . . .		51.61	
Francis Greenwood Peabody, . . . . .		820.02	
Nelson Robinson Jr. (part), . . . . .		7,682.28	
George W. Sawin, . . . . .		223.22	
John E. Thayer, . . . . .		810.08	
Elizabeth Torrey, . . . . .		54.46	
Henry Warren Torrey. Interest, . . . . .	\$554.24		
Sales, . . . . .	136.63	690.87	
Unknown Memorial (part), . . . . .		1,800.00	
Cyrus M. Warren, . . . . .		816.21	
Henry C. Warren (part), . . . . .		1,620.58	
Chauncey Wright, . . . . .		50.53	17,290.53
<b>Sundry Gifts.</b>			
<b>For the Department of Architecture.</b>			
Gifts for equipment, interest, . . . . .		\$116.89	
Gift for a painting, interest, . . . . .		20.21	
<b>For the Department of The Classics.</b>			
Gifts for books, . . . . .		200.00	
“ the Museum of Classical Archaeology, . . . . .		200.00	
For the Department of French, for books, . . . . .		155.01	
<b>For the Department of Geology and Geography.</b>			
Gifts for a meteorological observatory, . . . . .		200.00	
“ collection of deep sea deposits, . . . . .		100.00	
<b>For the Department of Landscape Architecture.</b>			
Gift for expenses, . . . . .		5.40	
For the Department of Mathematics, for books, . . . . .		15.00	
Amounts carried forward, . . . . .		\$1,012.51	\$1,679,016.57

TABLE NO. II, THE COLLEGE, CONTINUED.

## RECEIPTS.

Amounts brought forward, . . . .		\$1,012.51	\$1,679,016.57
<b>Sundry Gifts (<i>continued</i>).</b>			
For the Department of Mining and Metallurgy.			
Gift for expenses, . . . . .		350.00	
For Semitic Library. Interest, . . . . .		14.37	
For Bermuda Biological Station.			
Gifts, . . . . .	\$1,200.00		
Interest, . . . . .	21.11	1,221.11	
For extra copies of contributions from the Zoölog- ical Laboratory, . . . . .			
		50.00	
For Engineering Camp at Squam Lake, . . . .		1,000.00	
For special use in connection with the Summer Camp at Squam Lake, . . . . .			
		50.00	
For certain exhibits at the St. Louis Exposition, for the Mineralogical Museum, . . . . .			
		100.00	
For the School for Social Workers.			
Gifts, . . . . .	\$6,000.00		
Interest, . . . . .	67.37	6,067.37	
For the Ethics of the Social Questions.			
Gift, . . . . .	\$5,000.00		
Interest, . . . . .	80.24	5,080.24	
For furnishings of the Department of Social Ethics in Emerson Hall.			
Gift, . . . . .	\$13,000.00		
Interest, . . . . .	14.25	13,014.25	
For furnishing Emerson Hall.			
Gift, . . . . .	\$20,000.00		
Interest, . . . . .	400.77	20,400.77	
For equipment of the Psychological Laboratory.			
Gift, . . . . .	\$2,500.00		
Interest, . . . . .	48.84	2,548.84	
For alterations in the N. C. Nash Botanical Lecture Room, . . . . .			
		2,186.34	
For improvements in Hollis and Stoughton Halls,		8,800.00	
For evening use of Warren House libraries, . .		20.00	
For Plantations in the College Yard. Interest, .		68.51	
Unrestricted gift, . . . . .		600.00	62,079.81
<b>Receipts from Students.</b>			
Tuition fees, regular courses, . . . .	\$413,588.28		
“ “ Summer Schools, . . . .	21,938.75		
“ “ School for Social Workers, . . . .	240.00	\$435,767.03	
<b>Examination fees.</b>			
Admission, . . . . .	\$4,270.00		
Condition, . . . . .	528.00		
Doctor of Philosophy, . . . . .	30.00	4,828.00	
Amounts carried forward, . . . .		\$440,595.08	\$1,741,095.88

**TABLE NO. II, THE COLLEGE, CONTINUED.**  
**RECEIPTS.**

Amounts brought forward, . . .		\$440,595.03	\$1,741,095.88
<b>Receipts from Students (continued).</b>			
Graduation fees, . . . . .		8,940.00	
<b>Laboratory fees.</b>			
Astronomy, . . . . .	\$105.00		
Botany, . . . . .	1,717.50		
Chemistry, . . . . .	14,525.00		
Engineering, . . . . .	2,930.50		
Engineering, Squam Lake, . . .	2,145.49		
Geology, . . . . .	1,632.50		
Hygiene, . . . . .	1,550.00		
Mineralogy, . . . . .	525.00		
Mining and Metallurgy, . . . .	3,456.81		
Philosophy, . . . . .	90.00		
Physics, . . . . .	5,869.00		
Zoölogy, . . . . .	1,905.00	35,951.80	
College dormitories, . . . . .	\$97,833.51		
Less the following items:—			
Receipts from dormitories			
belonging to University			
Houses and Lands ac-			
count, . . . . .			
	\$19,330.84		
One-half net income from			
Matthews Hall, credited			
under income of Scholar-			
ship Funds, &c., . . .			
	5,080.98	24,411.77	73,421.74
Summer School excursions, surplus, . . . . .		49.48	558,958.05
<b>Sundries.</b>			
Use of rooms by College Society, . . . . .	\$175.00		
Sale of tickets to Commencement Lunch, . . . .	623.50		
“ hymn books, . . . . .	119.07		
“ Annals of Mathematics, . . . . .	345.32		
“ Hand-book of American History, . . . .	261.00		
“ Elementary Exercises in Physics, . . . .	268.00		
“ Harvard Psychological Review, . . . .	78.40		
“ History 1 publications, . . . . .	453.27		
“ publications for the Department of the			
Classics, . . . . .	268.04		
“ publications for the Sanskrit Department,	81.82		
“ other publications, . . . . .	1,270.57		
“ old examination papers, . . . . .	359.02		
Sundry receipts at the Engineering Camp at Squam			
Lake, . . . . .	15,213.46		
Pasturage, Squam Lake, . . . . .	60.00		
Interest on bank deposit, Squam Lake account, .	44.81		
“ account of tuition fees paid in advance,	4,149.04		
Insurance awards, . . . . .	5,542.48	29,312.30	
		<u>\$2,329,366.73</u>	

TABLE NO. II, THE COLLEGE, CONTINUED.

## PAYMENTS.

## From Fellowship Funds and Gifts.

Julia Amory Appleton, . . . . .	\$1,000.00	
Edward Austin, . . . . .	2,000.00	
Austin, Teaching, . . . . .	15,000.00	
Cercle Français de l'Université Harvard, . . .	600.00	
George W Dillaway . . . . .	800.00	
Ozias Goodwin Memorial, . . . . .	350.00	
Harris, . . . . .	250.00	
John Thornton Kirkland, . . . . .	675.00	
Henry Lee Memorial, . . . . .	225.00	
Charles Eliot Norton, . . . . .	300.00	
Robert Treat Paine, . . . . .	500.00	
John Parker, . . . . .	1,225.00	
Nelson Robinson Jr., . . . . .	1,000.00	
Rogers, . . . . .	1,812.50	
Henry Bromfield Rogers Memorial, . . .	450.00	
South End House, . . . . .	325.00	
John Tyndall, . . . . .	500.00	
James Walker, . . . . .	500.00	
Whiting, . . . . .	1,000.00	\$28,012.50

## From Scholarship Funds and Gifts.

Abbot, . . . . .	\$150.00	
Austin, Architecture, . . . . .	600.00	
Austin, Landscape Architecture, . . . . .	300.00	
Austin, for Teachers, . . . . .	2,540.68	
Bartlett, . . . . .	250.00	
Bassett, . . . . .	300.00	
Bigelow, . . . . .	400.00	
Bowditch, . . . . .	4,983.34	
Bright, . . . . .	1,000.00	
Browne, . . . . .	200.00	
Morey Willard Buckminster, . . . . .	200.00	
Burr, . . . . .	1,253.32	
Buluff Sterling Choate, . . . . .	275.00	
Class of 1802, . . . . .	325.00	
“ 1814, . . . . .	75.00	
“ 1816 (Kirkland), . . . . .	333.34	
“ 1817, . . . . .	233.34	
“ 1828, . . . . .	200.00	
“ 1835, . . . . .	233.34	
“ 1841, . . . . .	200.00	
“ 1852 (Dane), . . . . .	200.00	
“ 1856, . . . . .	600.00	
“ 1867, . . . . .	175.00	
Amounts carried forward, . . . .	\$15,027.86	\$28,012.50

TABLE NO. II, THE COLLEGE, CONTINUED.

## PAYMENTS.

Amounts brought forward, . . .		\$15,027.36	\$28,012.50
From Scholarship Funds and Gifts ( <i>continued</i> ).			
Class of 1877, . . . . .		120.00	
"    1883, . . . . .		66.67	
Crowninshield, . . . . .		435.00	
Warren H. Cudworth, . . . . .		700.00	
Francis H. Cummings, . . . . .		200.00	
George and Martha Derby, . . . . .		333.34	
Julius Dexter, . . . . .		175.00	
O. W. Doe, . . . . .		100.00	
Department of Education, . . . . .		500.00	
William Samuel Eliot, . . . . .		250.00	
George H. Emerson, . . . . .		825.00	
Joseph Eveleth, . . . . .		1,020.00	
Fall River, . . . . .		106.66	
Farrar, . . . . .		250.00	
Richard Augustine Gambrill, . . . . .		450.00	
Charles Haven Goodwin, . . . . .		300.00	
Benjamin D. Greene, . . . . .		200.00	
Price Greenleaf, . . . . .		2,880.00	
Harvard Club of Buffalo, . . . . .		186.66	
"    "    Chicago, . . . . .		300.00	
"    "    Louisiana, . . . . .		266.30	
"    "    San Francisco, . . . . .		300.00	
"    "    St. Louis, . . . . .		300.00	
John Appleton Haven, . . . . .		240.00	
Hilton, . . . . .		435.00	
Ebenezer Rockwood Hoar, . . . . .		466.66	
Levina Hoar, for the town of Lincoln, . . . . .		150.00	
Hodges, . . . . .		250.00	
Hollis, . . . . .		225.00	
Henry B. Humphrey, . . . . .		450.00	
Hennen Jennings, . . . . .		400.00	
C. L. Jones, . . . . .		1,200.00	
Lawrence Scientific School Association, . . . . .		300.00	
George Emerson Lowell, . . . . .		400.00	
Markoe, . . . . .		150.00	
Matthews, . . . . .		4,700.00	
William Merrick, . . . . .		225.00	
Morey, . . . . .		325.00	
Lady Mowlson, . . . . .		225.00	
Howard Gardner Nichols, . . . . .		266.66	
George Foster Peabody, . . . . .		250.00	
Pennoyer, . . . . .		45.00	
Rebecca A. Perkins, . . . . .		150.00	
Amounts carried forward, . . .		\$36,145.31	\$28,012.50

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.			
Amounts brought forward, . . .		\$36,145.31	\$28,019.50
<b>From Scholarship Funds and Gifts (continued).</b>			
Philadelphia, . . . . .	400.00		
Wendell Phillips Memorial, . . . . .	50.00		
Ricardo Prize, . . . . .	350.00		
Henry Bromfield Rogers, . . . . .	150.00		
Edward Russell, . . . . .	225.00		
Sales, . . . . .	238.84		
Saltonstall, . . . . .	425.00		
Leverett Saltonstall, . . . . .	325.00		
Mary Saltonstall, . . . . .	300.00		
Savage, . . . . .	300.00		
Sever, . . . . .	200.00		
Sewall, . . . . .	400.00		
Shattuck, . . . . .	2,100.00		
Slade, . . . . .	333.84		
Dunlap Smith, . . . . .	266.66		
Story, . . . . .	175.00		
Thayer, . . . . .	8,100.00		
Gorham Thomas, . . . . .	150.00		
Toppan, . . . . .	300.00		
Townsend, . . . . .	1,000.00		
Walcott, . . . . .	100.00		
Christopher M. Weld, . . . . .	400.00		
Jacob Wendell, . . . . .	400.00		
Whiting, . . . . .	525.00		
Josiah Dwight Whitney, . . . . .	200.00		
Mary L. Whitney, . . . . .	300.00		
University, Graduate School, . . . . .	1,550.00		
"    Lawrence Scientific School, . . . . .	1,250.00		
Normal, " " " . . . . .	600.00		
			<u>52,358.65</u>
<b>From Beneficiary and Loan Funds.</b>			
Rebecca C. Ames, . . . . .	\$1,431.84		
Edward Austin.			
Loans to L. S. S. students, . . . . .	\$2,633.00		
"    Special    "    . . . . .	672.80	3,305.80	
Edward Austin Loans (L.S.S.), from repay-			
ments, . . . . .	440.00		
William Brattle, . . . . .	77.64		
Moses Day, . . . . .	268.09		
Calvin and Lucy Ellis Aid.			
Beneficiaries, . . . . .	\$2,890.13		
Genealogical expenses, . . . . .	12.00	2,902.13	
Amounts carried forward, . . . . .	\$8,425.00		<u>\$80,266.15</u>

TABLE NO. II, THE COLLEGE, CONTINUED.

## PAYMENTS.

Amounts brought forward, . . . . .	\$8,425.00	\$80,266.15
<b>From Beneficiary and Loan Funds (<i>continued</i>).</b>		
Exhibitions, . . . . .	65.58	
Price Greenleaf Aid, . . . . .	16,549.46	
Edward Holyoke, . . . . .	16.86	
Robert Keayne, . . . . .	120.10	
Bertram Kimball, . . . . .	1,192.50	
Lawrence Scientific School Loans Repaid, . .	867.23	
Mary Lindall, . . . . .	3.14	
Munroe, . . . . .	526.62	
Palfrey Exhibition, . . . . .	80.00	
Dr. Andrew P. Peabody Memorial, . . . .	70.00	
Quincy Tufts, . . . . .	548.83	
Stuart Wadsworth Wheeler, . . . . .	200.00	
Samuel Ward, special food for sick students, .	28.97	
Scholarship and Beneficiary money returned, . .	1,634.00	30,327.79
<b>From Prize Funds.</b>		
Anonymous, English 18, . . . . .	\$25.00	
Francis Boott.		
Prize, . . . . .	\$100.00	
Performance and expenses, . . . .	212.00	312.00
Bowdoin Prizes for Dissertations.		
Prizes, . . . . .	\$1,200.00	
Expenses, . . . . .	46.80	1,246.80
Boylston Prizes for Elocution, . . . . .	255.00	
Coolidge Debating, . . . . .	200.00	
Lloyd McKim Garrison, . . . . .	100.00	
Edward Hopkins Gift for "Deturs," . . . .	253.67	
Sales, . . . . .	45.00	
George B. Sohler, . . . . .	250.00	
Charles Sumner, . . . . .	100.00	
Philip Washburn, . . . . .	75.00	2,862.47
<b>From Sundry Funds for Special Purposes.</b>		
Francis James Child Memorial, books, . .	\$449.77	
Classical Publication Fund of the <b>Class of 1856.</b>		
Harvard Studies in Classical Philol., \$715.64		
Interest on advances, . . . . .	58.86	774.50
George A. Gardner, photographs, etc., for De-		
partment of Geology, . . . . .	144.65	
Harvard Oriental Series, publications, . . . .	675.00	
Ingersoll Lecture, printing, . . . . .	61.00	
George W. Sawin, books for Department of		
Mathematics, . . . . .	128.96	
Amounts carried forward, . . . . .	\$2,233.88	\$113,456.41

## TABLE NO. II, THE COLLEGE, CONTINUED.

## PAYMENTS.

Amounts brought forward, . . . . .	\$2,233.88	\$113,456.41
<b>From Sundry Funds for Special Purposes (<i>continued</i>).</b>		
Barthold Schlesinger, books for Department of German, . . . . .	13.05	
John E. Thayer, Quarterly Journal of Economics, . . . . .	682.30	
Elizabeth Torrey, books for Department of History, . . . . .	146.36	
Henry Warren Torrey, publications, . . .	701.60	
Unknown Memorial, services and expenses, . . .	1,119.08	
Cyrus M. Warren, research in Chemistry, .	258.65	
Chauncey Wright, books for Department of Mathematics, . . . . .	1.93	
Henry C. Warren, publications, . . . . .	1,957.98	
Nelson Robinson Jr.		
Expenses of Nelson Robinson Jr.		
Hall, . . . . .	\$5,801.86	
Expenses in Department of Architecture, . . . . .	1,880.92	7,682.28
		14,792.11
<b>Payments made from College income on the following accounts :—</b>		
Museum of Comparative Zoölogy (part, see Table XIII, page 111), . . . . .	\$4,080.89	
Jefferson Physical Laboratory (part, see Table XVIII, page 115), . . . . .	690.22	
Hemenway Gymnasium (part, see Table XXI, page 118), . . . . .	7,369.59	12,140.70
<b>Summer Schools.</b>		
Salaries, . . . . .	\$16,768.33	
Secretary, . . . . .	600.00	
Clerical services, . . . . .	100.00	
Repairs and improvements, . . . . .	81.69	
Care and cleaning, . . . . .	62.90	
Fuel, . . . . .	14.00	
Water, . . . . .	28.08	
Lighting, . . . . .	27.10	
Printing, . . . . .	943.93	
Stationery and postage, . . . . .	147.41	
Binding, . . . . .	2.35	
Advertising, . . . . .	800.49	
Services and wages, . . . . .	459.02	
Remission of fees for instruction, . . . . .	150.00	
Geological and Geographical courses, travelling expenses, . . . . .	121.62	
Reception, . . . . .	143.50	
Amounts carried forward, . . . . .	\$20,445.42	\$140,389.22



TABLE NO. II, THE COLLEGE, CONTINUED.

## PAYMENTS.

Amounts brought forward, . . . . .		\$20,445.42	\$140,889.21
<b>Summer Schools (<i>continued</i>).</b>			
Music, . . . . .		128.00	
Travelling expenses, . . . . .		41.60	
Restaurant expenses, deficit, . . . . .		25.42	
Supplies, materials, and sundries, . . . . .		200.53	20,840.91
<b>From Special Gifts.</b>			
For Department of Architecture, books, casts, &c.,		\$2,228.20	
“ “ Chemistry, books and improve- ments, . . . . .		173.21	
“ “ The Classics, books, . . . . .		426.75	
“ “ Education, books, . . . . .		107.59	
“ “ French, books, . . . . .		7.43	
“ “ Geology and Geography. Equipment of exhibition rooms,		100.00	
Meteorological observatory, .		200.00	
“ “ History and Government, books,		1.50	
“ “ Landscape Architecture, . . .		.79	
“ “ Mathematics, subscription for “Transactions,” . . . . .		100.00	
“ “ Political Economy. Books and material, . . . . .		83.97	
Maps and charts, . . . . .		76.16	
“ “ Sanskrit, postage, . . . . .		1.78	
“ Lowell Memorial Library, books, . . . . .		11.33	
“ Semitic Library, books, . . . . .		265.89	
“ Bermuda Biological Station, . . . . .		560.02	
“ extra copies of contributions from the Zoölogi- cal Laboratory, . . . . .		50.00	
“ School for Social Workers, . . . . \$2,350.20			
Less charged to College salaries, 1,750.00		600.20	
“ Social Questions Library, books, . . . . .		305.10	
“ The Ethics of the Social Questions. Sundry expenses, . . . . . \$3,939.62			
Less charged to College salaries, 400.00		3,539.62	
“ Equipment of the Psychological Laboratory,		201.76	
“ Equipment for the course in Forestry, . . .		131.82	
“ Research in Experimental Phonetics, . . .		23.13	
“ Furnishing Emerson Hall, . . . . .		352.06	
“ Plantations in the College Yard, . . . . .		247.91	9,796.21
<b>Appropriations for collections, laboratories, &amp;c.</b>			
Anthropology (Prof. F. W. Putnam), . . . . .		\$100.00	
Botany (Prof. Thaxter), . . . . .		100.00	
Chemistry (Prof. Sanger), . . . . .		250.00	
Amounts carried forward, . . . . .		\$450.00	\$171,026.41

TABLE NO. II, THE COLLEGE, CONTINUED.

## PAYMENTS.

Amounts brought forward, . . . . .	\$450.00	\$171,026.41
<b>Appropriations for collections, laboratories, &amp;c. (<i>continued</i>).</b>		
Geology and Geography (Asst. Prof. Woodworth),	125.00	
Mineralogy (Prof. Wolff), . . . . .	112.80	
Mineralogy and Petrography (Prof. Wolff), . . .	700.00	
Music (Prof. Paine), . . . . .	125.00	
Physics (Prof. Trowbridge), . . . . .	500.00	
Psychology (Prof. Münsterberg), . . . . .	150.00	
"    for publications, . . . . .	78.40	
Zoölogy (Prof. Mark), . . . . .	200.00	
"    for reprints, . . . . .	50.00	
Laboratory fees appropriated, . . . . .	30,325.81	
Division of Mathematics, . . . . .	139.43	
Casts and impressions of Latin inscriptions (Prof. M. Warren), . . . . .	50.00	
History, for books, . . . . .	120.46	33,126.90
<b>Salaries.</b>		
Instruction, . . . . .	\$408,887.99	
Deans, . . . . .	4,875.00	
Chairmen of Committees, . . . . .	800.00	
Recorders and Secretaries, . . . . .	6,900.00	
Examination Proctors, . . . . .	1,404.60	422,867.59
<b>For College Public Buildings which are not valued in the Treasurer's books, the expenses of which are not separately entered in this table.</b>		
Repairs, improvements, &c., . . . . .	\$17,915.41	
Care and cleaning, . . . . .	12,014.75	
Fuel, . . . . .	5,948.84	
Water, . . . . .	344.57	
Lighting, . . . . .	2,101.62	
Insurance, . . . . .	496.08	
Electric power, . . . . .	618.55	
Supplies and sundries, . . . . .	503.28	
Telephones, . . . . .	75.26	40,013.86
<b>For College Dormitories, which are not valued in the Treasurer's books.</b>		
Repairs and improvements, . . . . .	\$23,068.63	
Care and cleaning, . . . . .	14,718.98	
Fuel, . . . . .	2,845.65	
Water, . . . . .	1,280.66	
Lighting, . . . . .	3,781.05	
Insurance, . . . . .	326.51	
Supplies and sundries, . . . . .	306.82	
Furnishing rooms in Conant Hall, . . . . .	1,680.70	
Fire escapes, . . . . .	630.79	48,639.79
Amount carried forward, . . . . .		\$715,674.05

## TABLE NO. II, THE COLLEGE, CONTINUED.

## PAYMENTS.

Amount brought forward, . . . . . \$715,674.08

## General Expenses.

Deans and Chairmen of Committees, clerical and office expenses, . . . . .	\$15,983.56	
Reading examination books, . . . . .	3,510.48	
Services of proctors, . . . . .	1,454.96	
“ assistants to instructors, . . . . .	4,621.50	
“ undergraduates, . . . . .	1,291.03	
“ Head Guide in College grounds, . . .	26.25	
Attendants in department laboratories, . . . . .	1,540.00	
Admission examinations, . . . . .	2,708.92	
Pews hired in Cambridge churches, . . . . .	196.88	
Commencement Lunch, . . . . .	781.12	
Printing office, expenses, . . . . .	\$24,429.46	
Less receipts, . . . . .	<u>14,423.77</u>	10,005.69
Text books, Forestry, . . . . .	11.05	
Annals of Mathematics, . . . . .	839.51	
Syllabus in History 1a, . . . . .	50.00	
Map of Europe, . . . . .	105.97	
Telephones, . . . . .	21.46	
Furniture, . . . . .	413.49	
Advertising, . . . . .	825.82	
Watchmen, . . . . .	1,248.07	
Legal expenses, . . . . .	89.41	
Music, Class-Day, . . . . .	125.00	
Receptions, . . . . .	61.70	
Use of Grays 18 by English department, . . . .	100.00	
Services and expenses at Faculty meetings, . . .	70.61	
“ for Regent, . . . . .	13.40	
“ on records of former students, . . . .	50.00	
Blank books for examinations, . . . . .	689.29	
Expenses of camp at Squam Lake (Engineering),	17,534.76	
Engineering courses in Pierce Hall, . . . . .	6,701.09	
Travelling expenses in Mining 12, . . . . .	40.37	
“ “ in Economics 18, . . . . .	56.55	
“ “ in Forestry courses, . . . . .	22.50	
Expenses of delegates, . . . . .	52.68	
Association of American Universities, . . . . .	25.00	
College Entrance Examination Board, . . . . .	300.00	
Diplomas, . . . . .	989.29	
Maps, . . . . .	31.40	
Lighting College Yard, . . . . .	182.50	
Rent and moving of pianos, . . . . .	69.50	
Freight, and sundries, . . . . .	115.40	72,956.21
		<u>\$788,630.21</u>

## TABLE NO. III.

## THE LIBRARY.

## RECEIPTS.

## Gifts for Capital Account.

Charles Eliot Norton Fund, . . . . .	\$8,500.00	
Income of Book Funds, and Gifts and Receipts for the purchase of books.		
Nathaniel I. Bowditch, . . . . .	\$105.09	
Bright ( $\frac{1}{2}$ income of the Bright Legacy), . . .	1,280.00	
Edwin Conant ( $\frac{1}{2}$ income), . . . . .	341.84	
Constantius ( $\frac{1}{2}$ income), . . . . .	638.18	
Denny . . . . .	261.45	
Eliza Farrar, . . . . .	263.07	
Price Greenleaf (part), . . . . .	1,000.00	
Horace A. Haven, . . . . .	160.54	
Francis B. Hayes, . . . . .	494.71	
George Hayward, . . . . .	260.81	
Thomas Hollis, . . . . .	115.18	
Sidney Homer, . . . . .	107.31	
Jarvis, . . . . .	25.44	
Frederick A. Lane, . . . . .	259.28	
Lowell, . . . . .	1,808.41	
Charles Minot, . . . . .	2,981.86	
Charles Eliot Norton, . . . . .	34.83	
Lucy Osgood, . . . . .	351.63	
Mary Osgood, . . . . .	345.09	
Henry L. Pierce, . . . . .	2,483.03	
Francois Sales, . . . . .	194.34	
Stephen Salisbury, . . . . .	261.70	
Sever, . . . . .	1,001.56	
Samuel Shapleigh, . . . . .	194.24	
George B. Schier (part), . . . . .	94.40	
Subscription for Library, . . . . .	516.25	
Charles Sumner, . . . . .	1,845.84	
Kenneth Matheson Taylor, . . . . .	252.99	
Daniel Treadwell ( $\frac{1}{2}$ income), . . . . .	300.81	
Ichabod Tucker, . . . . .	214.02	
Henry W. Wales (part), . . . . .	168.71	
James Walker, . . . . .	783.85	
Thomas W. Ward, . . . . .	260.17	
Executors of Robert Waterston (balance), . .	13.38	
J Huntington Wolcott, . . . . .	989.12	
Gifts for books, . . . . .	3,930.57	
Sale of duplicate books, . . . . .	258.26	
Received for books lost, . . . . .	73.20	
Fines, . . . . .	335.88	\$24,451.49
Amount carried forward, . . . . .		\$32,951.49

## TABLE NO. III, THE LIBRARY, CONTINUED.

## RECEIPTS.

Amount brought forward, . . . . .	\$32,951.49	
Income of R. M. Hodges Fund (part), for publishing Bibliographical Contributions, . . . . .		378.01
Income of Funds for general purposes.		
Daniel Austin, . . . . .	\$306.52	
Edwin Conant ( $\frac{1}{2}$ income), . . . . .	1,025.53	
Constantius ( $\frac{1}{2}$ income) . . . . .	638.12	
Fund of the Class of 1851, . . . . .	31.54	
" " " " (C. F. Dunbar's Gift), . . . . .	31.09	
Price Greenleaf (part), . . . . .	15,728.15	
Henry T. Morgan, . . . . .	4,031.99	
Henry L. Pierce (part), . . . . .	2,460.00	
James Savage ( $\frac{1}{2}$ income), . . . . .	1,824.80	
Daniel Treadwell ( $\frac{1}{2}$ income), . . . . .	300.81	
Eben Wright, . . . . .	4,920.00	30,793.55
Fees for use of Library, . . . . .	\$85.00	
Sale of Index Subject Catalogues, . . . . .	1.00	
" Bibliographical Contributions, . . . . .	18.51	
Gifts for services, . . . . .	1,041.00	1,140.51
		<u>\$65,263.46</u>

## PAYMENTS.

For Books, from the following Funds, Gifts, etc.		
Bowditch, . . . . .	\$128.05	
Bright, . . . . .	1,187.65	
Conant, . . . . .	386.59	
Constantius, . . . . .	611.44	
Denny, . . . . .	251.48	
Farrar, . . . . .	184.58	
Price Greenleaf, . . . . .	1,178.54	
Haven, . . . . .	115.44	
Hayes, . . . . .	392.49	
Hayward, . . . . .	271.55	
Hollis, . . . . .	66.62	
Homer, . . . . .	188.35	
Jarvis, . . . . .	39.87	
Lane, . . . . .	241.33	
Lowell, . . . . .	896.15	
Minot, . . . . .	3,182.87	
Lucy Osgood, . . . . .	301.71	
Mary Osgood, . . . . .	276.29	
Pierce, . . . . .	2,104.65	
Sales, . . . . .	233.51	
Salisbury, . . . . .	222.92	
Sever, . . . . .	1,206.56	
Amount carried forward, . . . . .	\$12,568.65	

TABLE NO. III, THE LIBRARY, CONTINUED.

## PAYMENTS.

Amount brought forward, . . . . . \$13,568.66

For Books, from the following Funds, etc. (*continued*).

Shapleigh, . . . . .	183.50	
Sohier, . . . . .	35.24	
Subscription Fund, . . . . .	460.84	
Sumner, . . . . .	1,678.71	
Taylor, . . . . .	236.41	
Daniel Treadwell, . . . . .	364.96	
Tucker, . . . . .	221.38	
Wales, . . . . .	1.16	
Walker, . . . . .	684.04	
Ward, . . . . .	411.75	
J. Huntington Wolcott, . . . . .	1,006.18	
Special Gifts, . . . . .	2,836.29	
Duplicate money and receipts for lost books, . . .	334.98	
Fines, . . . . .	373.36	\$22,397.46
<hr/>		
Salaries, . . . . .	\$14,150.00	
Services and wages, . . . . .	19,588.19	
Services, from special gift, . . . . .	986.00	
Repairs and improvements, . . . . .	787.73	
Care and cleaning, . . . . .	1,147.88	
Fuel, . . . . .	993.58	
Water, . . . . .	11.34	
Lighting, . . . . .	1,254.39	
Printing, . . . . .	694.64	
Furniture, . . . . .	437.61	
Stationery and postage, . . . . .	424.95	
Telephone, . . . . .	129.04	
Binding, . . . . .	2,407.70	
Insurance, . . . . .	21.88	
Electric power, . . . . .	79.70	
Freight, . . . . .	159.96	
Supplies and sundries, . . . . .	857.41	
Maps, . . . . .	8.25	
Moving books, . . . . .	38.00	
Care of special reference libraries (\$55 thereof paid from special gift), . . . . .	1,141.45	45,319.60
		<hr/>
		\$67,717.06

**TABLE No. IV.**  
**DIVINITY SCHOOL.**

**RECEIPTS.**

<b>Income of Funds for Instruction, or for general purposes.</b>		
Divinity School (balance), . . . . .	\$697.81	
New Endowment, . . . . .	3,514.21	
Oliver Ames, . . . . .	886.40	
Hannah C Andrews, . . . . .	25.83	
Daniel Austin, . . . . .	43.79	
Adams Ayer, . . . . .	49.20	
Joseph Baker, . . . . .	751.53	
Beneficiary money returned (balance), . . . . .	8.96	
Bussey Professorship, . . . . .	1,849.13	
Benjamin Bussey Trust ( $\frac{1}{4}$ net income), . . . . .	2,127.58	
Joshua Clapp, . . . . .	107.16	
Edwin Conant, . . . . .	246.00	
Dexter Lectureship, . . . . .	1,256.76	
Frothingham Professorship, . . . . .	2,617.59	
Abraham W Fuller, . . . . .	51.66	
Lewis Gould, . . . . .	44.83	
John Hancock Professorship, . . . . .	\$295.59	
C. L. Hancock (part), . . . . .	<u>4,704.41</u>	5,000.00
Haven, . . . . .	246.00	
Samuel Hoar, . . . . .	51.66	
Henry P. Kidder, . . . . .	492.00	
Henry Lienow, . . . . .	451.90	
Caroline Merriam, . . . . .	51.66	
Parkman Professorship, . . . . .	787.99	
John W. Quinby . . . . .	26.07	
Abby Crocker Richmond, . . . . .	49.20	
John L. Russell, . . . . .	49.20	
William B. Spooner, . . . . .	492.00	
Thomas Tileston of New York Endowment, . . . . .	1,968.00	
Mary P. Townsend, . . . . .	258.30	
Winthrop Ward, . . . . .	103.32	
Winn Professorship, . . . . .	<u>2,723.03</u>	<u>26,978.34</u>
Interest on account of tuition fees paid in advance, . . . . .		63.03
<b>Income of Scholarship, Beneficiary and Prize Funds.</b>		
Robert Charles Billings, for prizes, . . . . .	\$123.49	
Abner W Buttrick, . . . . .	650.86	
Thomas Cary . . . . .	278.42	
George Chapman, . . . . .	135.74	
Joshua Clapp, . . . . .	220.85	
Jackson Foundation, . . . . .	736.91	
J. Henry Kendall, . . . . .	<u>268.53</u>	
Amounts carried forward, . . . . .	<u>\$2,414.80</u>	<u>\$27,041.26</u>

TABLE NO IV, DIVINITY SCHOOL, CONTINUED.

## RECEIPTS.

Amounts brought forward, . . .	\$2,414.80	\$27,041.26
Income of Scholarship, etc. ( <i>continued</i> ).		
Nancy Kendall, . . . . .	171.06	
William Pomroy, . . . . .	51.66	2,637.52
Income of Book Funds.		
Rushton Dashwood Burr, . . . . .	\$208.80	
Louisa J. Hall, . . . . .	38.82	247.62
Receipts from Students.		
Tuition fees, regular courses, . . . . .	\$5,520.00	
"    "    Graduate School, . . . . .	762.28	
"    "    Summer School, . . . . .	915.00	
Divinity Hall, . . . . .	2,940.00	
Library fines, . . . . .	7.60	10,144.88
Gift from Society for Promoting Theological Education,	\$2,124.01	
Sale of tickets to Alumni Dinner, . . . . .	48.00	
"    Catalogues, . . . . .	77.50	
"    duplicate books, . . . . .	2.75	
Insurance premiums repaid, . . . . .	108.91	2,856.17
		<u>\$42,427.40</u>

## PAYMENTS.

From Scholarship Funds.		
Thomas Cary, . . . . .	\$240.00	
George Chapman, . . . . .	100.00	
Joshua Clapp, . . . . .	180.00	
Jackson, . . . . .	640.00	
J. H. Kendall, . . . . .	200.00	
Nancy Kendall, . . . . .	140.00	\$1,500.00
From Beneficiary Funds.		
Abner W. Buttrick, . . . . .	\$575.00	
William Pomroy, . . . . .	50.09	625.09
From Robert Charles Billings Fund, prize, . . .		100.00
From Louisa J. Hall Fund, books, . . . . .		6.05
Salaries for instruction, . . . . .	\$30,176.72	
Summer School. Salaries for instruction, . . .	\$1,125.00	
Printing and other expenses, . . . . .	552.60	1,677.60
Secretary and Librarian, . . . . .	1,750.00	
Services and wages, . . . . .	190.90	
Library Assistants, . . . . .	1,288.33	
Repairs, improvements, and labor, . . . . .	682.33	
Fire escapes, . . . . .	38.87	
Care and cleaning, . . . . .	1,784.95	
Fuel, . . . . .	677.92	
Water, . . . . .	100.92	
Amounts carried forward, . . . . .	\$38,368.04	\$2,281.14



TABLE NO. IV, DIVINITY SCHOOL, CONTINUED.

## PAYMENTS.

Amounts brought forward, . . . .	\$38,368.04	\$2,231.14
Lighting, . . . . .	305.92	
Printing, . . . . .	431.90	
Furniture, . . . . .	63.61	
Stationery and postage, . . . . .	209.93	
Telephone, . . . . .	28.79	
Books, . . . . .	610.94	
Binding, . . . . .	141.25	
Advertising, . . . . .	468.95	
Diplomas, . . . . .	3.50	
Alumni dinner, . . . . .	55.00	
Proportion of expenses of Gymnasium (see Table XXI, page 118), . . . . .	108.12	
Tuning and repairing organ, . . . . .	31.86	
American School for Oriental study and research in Palestine (5th payment), . . . . .	100.00	
Subscriptions to the Fellowship in Christian Archaeology in the American School of Classical Studies in Rome,	25.00	
F. H. Hedge tablet, . . . . .	200.00	
J. H. Thayer tablet, . . . . .	385.00	
Sundries, . . . . .	56.92	41,594.73
		<u>\$43,825.87</u>

TABLE NO. V.

## LAW SCHOOL.

## RECEIPTS.

Gift for Capital Account.

James Barr Ames Loan Fund, . . . . . \$500.00

Income of Funds.

Law School, balance, . . . . .	\$18,852.60		
James Barr Ames Loan, . . . . .	22.58		
James Barr Ames Prize, . . . . .	159.74		
Bemis Professorship, . . . . .	3,501.17		
Benjamin Bussey Professorship, . . . . .	1,179.81		
Benjamin Bussey Trust ( $\frac{1}{4}$ net income), . . . .	2,127.58		
Nathan Dane Professorship, . . . . .	774.90		
John Foster, . . . . .	156.02		
Hughes Loan, repayments, . . . . .	66.17		
Law School Book, . . . . .	2,313.43		
Law School Library, . . . . .	4,920.00		
Isaac Royall Professorship, . . . . .	410.37		
Weld " . . . . .	4,673.75		
Scholarship Money Returned. Interest, . .	\$96.87		
Repayment, . . . . .	7.00	103.87	34,261.94
Amount carried forward, . . . . .			<u>\$34,761.94</u>

TABLE NO. V, LAW SCHOOL, CONTINUED.

## RECEIPTS.

Amount brought forward, . . . . .	\$34,761.94
Interest on account of tuition fees paid in advance, . . . . .	1,112.54
Tuition fees, . . . . .	110,900.08
Sale of books, . . . . .	51.00
Received for books lost, . . . . .	4.00
Insurance premiums, repaid, . . . . .	77.17
	<u>\$146,906.78</u>

## PAYMENTS.

## From Beneficiary and Loan Funds.

Scholarship Money Returned, . . . . .	\$984.08	
Hughes Loan, . . . . .	525.92	
Law School Exhibition, . . . . .	75.00	\$1,585.00
Salaries for instruction, . . . . .	\$53,983.33	
Librarians and Assistants, . . . . .	10,791.15	
Secretary, . . . . .	562.50	
Services of examiners, . . . . .	60.00	
Services of proctors, . . . . .	325.25	
Scholarships, . . . . .	7,900.00	
Repairs and improvements, . . . . .	676.33	
Care and cleaning, . . . . .	1,556.38	
Fuel, . . . . .	850.29	
Water, . . . . .	57.96	
Lighting, . . . . .	1,862.02	
Printing, . . . . .	234.20	
Furniture, . . . . .	912.46	
Stationery and postage, . . . . .	674.49	
Telephone, . . . . .	83.11	
Books, . . . . .	12,474.98	
Binding, . . . . .	2,665.00	
Advertising, . . . . .	140.00	
Insurance, . . . . .	18.80	
Freight, . . . . .	515.09	
Proportion of expenses of Gymnasium (see Table XXI, page 118), . . . . .	1,905.88	
Travelling expenses, . . . . .	133.29	
Electric power, . . . . .	50.00	
Catalogue, . . . . .	240.77	
Quinquennial Catalogue, . . . . .	2,015.31	
Diplomas, . . . . .	163.00	
Photographs and etchings, . . . . .	45.00	
Association of American Law Schools, . . . . .	10.00	
Sundries, . . . . .	295.44	101,202.03
		<u>\$102,787.03</u>

**TABLE NO. VI.**  
**MEDICAL SCHOOL.**

**RECEIPTS.**

**Gifts for Capital Account.**

Anonymous Aid Fund, . . . . .	\$5,000.00	
<b>F. B. Greenough Fund for Surgical Research</b> (additional), . . . . .	<u>500.00</u>	<b>\$5,500.00</b>

**Income of Funds for Instruction, or for general purposes.**

Medical School, balance, . . . . .	\$1,496.37	
<b>Edward M. Barringer (part), . . . . .</b>	805.24	
<b>John B. and Buckminster Brown, . . . . .</b>	1,050.37	
<b>Calvin and Lucy Ellis (part), . . . . .</b>	16,783.56	
<b>George Fabyan (part), . . . . .</b>	5,840.45	
<b>Samuel E. Fitz, . . . . .</b>	90.33	
<b>Henry Harris (<math>\frac{1}{2}</math> income), . . . . .</b>	736.50	
<b>Hersey Professorship (<math>\frac{2}{3}</math> income), . . . . .</b>	397.87	
<b>George Higginson, . . . . .</b>	5,013.87	
<b>Jackson, . . . . .</b>	2,174.30	
<b>William O. Moseley, . . . . .</b>	2,603.86	
New subscription, . . . . .	1,906.50	
Dr. Ruppaner, . . . . .	459.33	
George C. Shattuck, . . . . .	3,595.71	
Mary W. Swett, . . . . .	775.64	
Samuel W. Swett, . . . . .	984.00	
Quincy Tufts, . . . . .	98.40	
<b>Henry Willard Williams, . . . . .</b>	<u>1,753.00</u>	<b>46,565.30</b>

Interest on account of tuition fees paid in advance, . . . . . 493.22

**Income of Fellowship Funds.**

<b>Edward Austin (part) Teaching, . . . . .</b>	<b>\$2,000.00</b>	
<b>George Cheyne Shattuck Memorial, . . . . .</b>	264.45	
<b>Charles Eliot Ware " . . . . .</b>	280.69	
<b>John Ware " . . . . .</b>	<u>262.24</u>	<b>2,807.38</b>

**Income of Scholarship and Aid Funds.**

Anonymous Aid, . . . . .	\$133.23
<b>Edward M. Barringer (part), . . . . .</b>	450.00
<b>Lucius F. Billings, . . . . .</b>	253.43
<b>David Williams Cheever, . . . . .</b>	284.43
Cotting Gift, . . . . .	155.47
Orlando W. Doe, . . . . .	138.80
Joseph Eveleth (part), . . . . .	600.00
Lewis and Harriet Hayden, . . . . .	284.52
William Hilton (part), . . . . .	540.00
C. M. Jones, . . . . .	316.11

Amounts carried forward, . . . . . \$3,155.99 **\$55,365.90**

TABLE NO. VI, MEDICAL SCHOOL, CONTINUED.

## RECEIPTS.

Amounts brought forward, . . . . .	\$3,155.99	\$55,365.90
<b>Income of Scholarship and Aid Funds (<i>continued</i>).</b>		
Alfred Hosmer Linder, . . . . .	265.04	
Joseph Pearson Oliver, . . . . .	422.38	
Charles B. Porter, . . . . .	280.98	
Charles Pratt Strong, . . . . .	238.90	
Isaac Sweetser, . . . . .	322.21	
John Thomson Taylor, . . . . .	260.81	
Edward Wigglesworth, . . . . .	266.17	5,207.43
<b>Income of Prize Funds.</b>		
Ward Nicholas Boylston, . . . . .	\$185.68	
William H. Thorndike, . . . . .	351.14	536.82
<b>Income of Sundry Funds and Gifts for special purposes.</b>		
Edward Austin (Bacteriological Laboratory), .	\$545.78	
J. Ingersoll Bowditch, . . . . .	300.66	
Ward Nicholas Boylston, for Medical Books,	106.37	
Caroline Brewer Croft (part), . . . . .	2,268.04	
George Fabyan (part), . . . . .	480.32	
F. B. Greenough (surgical research), . . . .	150.99	
Surgical Laboratory, . . . . .	338.05	
Warren Fund for Anatomical Museum, . . . .	690.43	
Medical Library, . . . . .	90.72	
Gifts for present use, . . . . .	64.66	5,036.02
Gifts for present use, . . . . .		13,900.00
<b>Receipts from students.</b>		
Tuition fees, regular courses, . . . . .	\$49,165.50	
“ “ graduate courses, . . . . .	2,207.00	
“ “ Dental students, . . . . .	3,600.00	
“ “ Summer courses, . . . . .	4,571.50	\$59,544.00
Graduation fees, . . . . .	2,460.00	
Matriculation fees, . . . . .	330.00	
Examination fees, . . . . .	285.00	
<b>Laboratory fees.</b>		
Anatomy, . . . . .	\$646.00	
Chemistry, . . . . .	778.58	
Histology, . . . . .	166.00	
Operative Surgery, . . . . .	123.00	
Physiology, . . . . .	316.09	2,029.67
Use of microscopes, . . . . .	724.75	65,878.42
		<u>\$145,419.59</u>

**TABLE NO. VI.**  
**MEDICAL SCHOOL.**

**RECEIPTS.**

**Gifts for Capital Account.**

Anonymous Aid Fund, . . . . .	\$5,000.00	
<b>F. B. Greenough Fund for Surgical Research</b> (additional), . . . . .	<u>500.00</u>	<b>\$5,500.00</b>

**Income of Funds for Instruction, or for general purposes.**

Medical School, balance, . . . . .	\$1,496.37	
<b>Edward M. Barringer (part), . . . . .</b>	<b>805.24</b>	
<b>John B. and Buckminster Brown, . . . . .</b>	<b>1,050.37</b>	
<b>Calvin and Lucy Ellis (part), . . . . .</b>	<b>16,783.56</b>	
<b>George Fabyan (part), . . . . .</b>	<b>5,840.45</b>	
<b>Samuel E. Fitz, . . . . .</b>	<b>90.33</b>	
<b>Henry Harris (<math>\frac{1}{4}</math> income), . . . . .</b>	<b>736.50</b>	
<b>Hersey Professorship (<math>\frac{2}{3}</math> income), . . . . .</b>	<b>897.87</b>	
<b>George Higginson, . . . . .</b>	<b>5,018.87</b>	
<b>Jackson, . . . . .</b>	<b>2,174.30</b>	
<b>William O. Moseley, . . . . .</b>	<b>2,603.86</b>	
New subscription, . . . . .	1,906.50	
Dr. Ruppaner, . . . . .	459.33	
George C. Shattuck, . . . . .	3,595.71	
Mary W. Swett, . . . . .	775.64	
Samuel W. Swett, . . . . .	984.00	
Quincy Tufts, . . . . .	98.40	
<b>Henry Willard Williams, . . . . .</b>	<b>1,753.00</b>	<b>46,565.30</b>

Interest on account of tuition fees paid in advance, . . . . .		<b>493.22</b>
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**Income of Fellowship Funds.**

<b>Edward Austin (part) Teaching, . . . . .</b>	<b>\$2,000.00</b>	
<b>George Cheyne Shattuck Memorial, . . . . .</b>	<b>264.45</b>	
<b>Charles Eliot Ware " . . . . .</b>	<b>280.69</b>	
<b>John Ware " . . . . .</b>	<b>262.24</b>	<b>2,807.38</b>

**Income of Scholarship and Aid Funds.**

Anonymous Aid, . . . . .	\$133.23
<b>Edward M. Barringer (part), . . . . .</b>	<b>450.00</b>
<b>Lucius F. Billings, . . . . .</b>	<b>253.43</b>
<b>David Williams Cheever, . . . . .</b>	<b>284.43</b>
<b>Cotting Gift, . . . . .</b>	<b>155.47</b>
<b>Orlando W. Doe, . . . . .</b>	<b>138.80</b>
<b>Joseph Eveleth (part), . . . . .</b>	<b>600.00</b>
<b>Lewis and Harriet Hayden, . . . . .</b>	<b>284.52</b>
<b>William Hilton (part), . . . . .</b>	<b>540.00</b>
<b>C. M. Jones, . . . . .</b>	<b>316.11</b>

Amounts carried forward, . . . . .	<b>\$3,155.99</b>	<b>\$55,365.90</b>
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TABLE NO. VI, MEDICAL SCHOOL, CONTINUED.

## RECEIPTS.

Amounts brought forward, . . . . .		\$3,155.99	\$55,865.90
Income of Scholarship and Aid Funds ( <i>continued</i> ).			
Alfred Hosmer Linder, . . . . .	265.04		
Joseph Pearson Oliver, . . . . .	422.33		
Charles B. Porter, . . . . .	280.98		
Charles Pratt Strong, . . . . .	233.90		
Isaac Sweetser, . . . . .	322.21		
John Thomson Taylor, . . . . .	260.81		
Edward Wigglesworth, . . . . .	266.17		5,207.43
Income of Prize Funds.			
Ward Nicholas Boylston, . . . . .	\$185.68		
William H. Thorndike, . . . . .	351.14		536.82
Income of Sundry Funds and Gifts for special purposes.			
Edward Austin (Bacteriological Laboratory), .	\$545.78		
J. Ingersoll Bowditch, . . . . .	300.66		
Ward Nicholas Boylston, for Medical Books,	106.37		
Caroline Brewer Croft (part), . . . . .	2,268.04		
George Fabyan (part), . . . . .	480.32		
F. B. Greenough (surgical research), . . . .	150.99		
Surgical Laboratory, . . . . .	338.05		
Warren Fund for Anatomical Museum, . . . .	690.43		
Medical Library, . . . . .	90.72		
Gifts for present use, . . . . .	64.66		5,086.02
Gifts for present use, . . . . .			13,900.00
Receipts from students.			
Tuition fees, regular courses, . . . . .	\$49,165.50		
“ “ graduate courses, . . . . .	2,207.00		
“ “ Dental students, . . . . .	3,600.00		
“ “ Summer courses, . . . . .	4,571.50	\$59,544.00	
Graduation fees, . . . . .		2,460.00	
Matriculation fees, . . . . .		330.00	
Examination fees, . . . . .		285.00	
Laboratory fees.			
Anatomy, . . . . .	\$646.00		
Chemistry, . . . . .	778.58		
Histology, . . . . .	166.00		
Operative Surgery, . . . . .	123.00		
Physiology, . . . . .	316.09	2,029.67	
Use of microscopes, . . . . .		724.75	65,373.42
			<u>\$145,419.59</u>

TABLE NO. VI, MEDICAL SCHOOL, CONTINUED.

## PAYMENTS.

## From Fellowship Funds.

Edward Austin, Teaching, . . . . .	\$2,000.00	
George Cheyne Shattuck Memorial, . . . .	225.00	
Charles Eliot Ware Memorial, . . . . .	185.00	
John Ware Memorial, . . . . .	225.00	\$2,585.00

## From Scholarship Funds.

Edward M. Barringer, . . . . .	\$450.00	
Lucius F. Billings, . . . . .	200.00	
David Williams Cheever, . . . . .	250.00	
Cotting Gift, . . . . .	125.00	
Orlando W. Doe, . . . . .	100.00	
Joseph Eveleth, . . . . .	600.00	
John Foster, income for Medical Students (bal.),	150.00	
Lewis and Harriet Hayden, . . . . .	318.47	
William Hilton, . . . . .	540.00	
C. M. Jones, . . . . .	250.00	
Alfred Hosmer Linder, . . . . .	120.00	
Joseph Pearson Oliver, . . . . .	325.00	
Charles B. Porter, . . . . .	200.00	
Charles Pratt Strong, . . . . .	100.00	
Isaac Sweetser, . . . . .	350.00	
John Thomson Taylor, . . . . .	200.00	
Edward Wigglesworth, . . . . .	200.00	4,478.47

## From Prize Fund.

Ward Nicholas Boylston, Prize, . . . . .	\$150.00	
Advertising, . . . . .	12.50	162.50

## From Sundry Funds and Gifts for special purposes.

Edward Austin (Bacteriological Laboratory), .	\$314.31	
J. Ingersoll Bowditch, Physiology, . . . . .	148.01	
Ward Nicholas Boylston, Medical Books, . .	376.73	
Caroline Brewer Croft (part), cancer investi- gations, . . . . .	1,192.41	
George Fabyan (part), services, . . . . .	480.82	
Gifts for Anatomical Research, . . . . .	539.57	
Gifts for Pathological Department Library, . . . .	1,177.67	
Surgical Laboratory, . . . . .	1,141.71	
Warren Fund for Anatomical Museum, . . . . .	628.06	
Sundry Gifts, . . . . .	\$8,986.08	
Less paid for salaries, . . . . .	6,250.00	2,736.08
		8,734.87

## Appropriations.

Anatomy, . . . . .	\$1,150.00	
Bacteriology, . . . . .	500.00	
Chemistry, . . . . .	1,278.92	
Histology and Embryology, . . . . .	666.00	
Amounts carried forward, . . . . .	\$3,594.92	\$15,960.84

TABLE NO. VI, MEDICAL SCHOOL, CONTINUED.

## PAYMENTS.

Amounts brought forward, . . . . .		\$3,594.92	\$15,960.84
<b>Appropriations (continued).</b>			
Hygiene, . . . . .		250.00	
Museum, . . . . .		200.00	
Obstetrics, . . . . .		150.00	
Pathology, . . . . .		800.00	
Pharmacology and Therapeutics, . . . . .		700.00	
Physiology, . . . . .		3,629.43	
Surgery, . . . . .		450.00	9,774.85
Graduate courses, fees repaid to Instructors, . . . . .		\$2,207.00	
Summer " " " " . . . . .		4,942.00	7,149.00
Salaries for instruction, . . . . .			91,508.82
Retiring allowance, . . . . .			1,000.00
<b>General Expenses.</b>			
Dean Secretary, and Curator, . . . . .		\$2,500.00	
Clerical services, . . . . .		1,729.20	
Repairs and improvements, . . . . .		880.61	
Care and cleaning, . . . . .		5,286.81	
Fuel, . . . . .		2,188.02	
Water, . . . . .		1,056.00	
Lighting and gas, . . . . .		3,202.55	
Printing, . . . . .		469.68	
Furniture, . . . . .		20.82	
Stationery and postage, . . . . .		222.16	
Telephone, . . . . .		230.45	
Advertising and catalogues, . . . . .		1,800.00	
Insurance, . . . . .		59.00	
Proctors, . . . . .		80.00	
Mechanics and laboratory attendants, . . . . .		7,169.65	
Electric power, . . . . .		1,009.00	
Diplomas, . . . . .		145.50	
Time service, . . . . .		25.00	
Sewer assessment, . . . . .		528.00	
Legal expenses, . . . . .		15.00	
Sundries, . . . . .		472.75	
Supplies and material, . . . . .		1,802.95	29,842.65
			\$155,285.16



**TABLE No. VI, CONTINUED.**  
**Medical School Undertaking.**

**RECEIPTS.**

Gifts received in 1904-05.

<b>Mrs. Collis P. Huntington</b> , for building, .	<b>\$147,918.00</b>	
<b>J. Pierpont Morgan</b> , for buildings, . . . .	<b>486,000.00</b>	
<b>David Sears</b> , for building, . . . . .	<b>45,000.00</b>	
<b>George C. Shattuck Fund</b> (additional), . .	<b>1,000.00</b>	<b>\$679,913.00</b>

Income of Funds and Gifts.

<b>Robert C. Billings</b> , . . . . .	<b>\$5,377.66</b>	
<b>George Fabyan</b> (addition of 1903), \$1,808.03*		
<b>George Higginson Professorship</b> , 5,018.87*		
<b>Henry Jackson Endowment</b> , . . . . .	<b>4,393.26</b>	
<b>Jackson Professorship</b> (addition of 1902), . . . . .	<b>1,230.00*</b>	
<b>J. Pierpont Morgan Gift</b> , . . . . .	<b>1,485.69</b>	
<b>Henry L. Pierce</b> , . . . . .	<b>19,112.38</b>	
<b>Proctor</b> , for the Study of Chronic Diseases, .	<b>2,685.99</b>	
<b>John D. Rockefeller Gift</b> , . . . . .	<b>52,711.21</b>	
<b>School of Comparative Medicine</b> , . . . . .	<b>239.16</b>	
<b>Shattuck Professorship</b> (addition of 1902), . . . . .	<b>\$1,279.20*</b>	
<b>James Stillman Professorship</b> , . . . . .	<b>5,385.87</b>	
<b>Gift for Pathological Laboratory</b> , . . . . .	<b>263.32</b>	
<b>Real estate</b> , . . . . .	<b>439.67</b>	<b>92,044.21</b>
<b>Sales of land</b> , . . . . .		<b>134,383.44</b>
		<b>\$906,340.65</b>

**PAYMENTS.**

<b>Gift for Pathological Laboratory</b> , . . . . .	<b>\$59.63</b>
<b>Proctor Fund</b> for the study of Chronic Diseases, . . . . .	<b>808.93</b>

Real Estate.

<b>Sewer assessments</b> , . . . . .	<b>\$2,723.28</b>	
<b>Edgestone assessment</b> , . . . . .	<b>754.48</b>	
<b>Legal services</b> , . . . . .	<b>68.00</b>	
<b>Other expenses, surveys and plans</b> , . . . . .	<b>260.21</b>	<b>3,805.97</b>
<b>Construction Expenses</b> , . . . . .		<b>1,264,062.85</b>
<b>Interest on Advances</b> , . . . . .		<b>18,664.38</b>
		<b>\$1,287,401.71</b>

\* These items of income are entered in the Medical School table.

**TABLE No. VII.**  
**DENTAL SCHOOL.**

**RECEIPTS.**

**Income of Funds and Gifts.**

<b>Edward Austin Fund (part),</b> . . . . .	<b>\$500.00</b>		
Dental School, balance, . . . . .	874.78		
Dental School Endowment, . . . . .	111.49		
<b>Henry C. Warren Endowment,</b> . . . . .	<b>1,181.60</b>		
Gifts for new building. Gifts, . . . . .	<b>\$2,700.00</b>		
Interest, . . . . .	1,011.85	3,711.85	<b>\$6,329.67</b>
Interest on tuition fees paid in advance, . . . . .			<b>162.96</b>

**Receipts from students.**

Tuition fees, . . . . .	<b>\$16,244.50</b>		
Less transferred to Medical School, . . . . .	<b>3,600.00</b>	<b>\$12,644.50</b>	
Examination fees, . . . . .	451.00		
Laboratory fees, . . . . .	3,985.00		
Use of microscopes, . . . . .	70.00		
Chemistry, breakage, and supplies, . . . . .	232.01		
Library fines, . . . . .	.09		<b>17,882.60</b>
Fees from infirmary, . . . . .			<b>6,189.09</b>
Sale of gold, platinum, and sweepings, . . . . .	<b>\$217.49</b>		
“ scraps and old materials, . . . . .	109.04		
“ pamphlets, . . . . .	4.00		<b>330.53</b>
			<b>\$30,394.85</b>

**PAYMENTS.**

<b>Austin Teaching Fellowship,</b> . . . . .		<b>\$500.00</b>	
<b>Real Estate.</b>			
Paid from accumulated income, . . . . .	<b>\$20,000.00</b>		
“ Gifts for new building, . . . . .	15,901.80		<b>35,901.80</b>
Salaries for instruction, . . . . .	<b>\$10,795.00</b>		
Curator and Librarian, . . . . .	150.00		
Secretary, . . . . .	400.00		
Proctors, . . . . .	55.00		
Repairs and improvements, . . . . .	564.68		
Care and cleaning, . . . . .	1,256.45		
Fuel, . . . . .	148.43		
Water, . . . . .	68.60		
Lighting, . . . . .	490.79		
Printing, . . . . .	233.50		
Furniture, . . . . .	577.47		
Instruments and apparatus, . . . . .	392.76		
Stationery and postage, . . . . .	384.12		
Telephone, . . . . .	176.56		
Books, . . . . .	9.50		
Binding, . . . . .	81.49		
Advertising, . . . . .	1,008.18		
Amounts carried forward, . . . . .	<b>\$16,792.53</b>	<b>\$36,401.80</b>	

TABLE No. VII, DENTAL SCHOOL, CONTINUED.  
PAYMENTS.

Amounts brought forward, . . . . .	\$16,792.53	\$36,401.30
Services and wages, . . . . .	1,446.76	
Legal expenses, . . . . .	5.40	
Diplomas, . . . . .	38.66	
Annual Catalogue, . . . . .	80.60	
Quinquennial Catalogue, . . . . .	38.35	
Expenses in getting money for a new building, . . . .	52.84	
Supplies, &c., . . . . .	6,860.48	
Sundries, . . . . .	485.64	25,801.26
		<u>\$61,702.56</u>

TABLE No. VIII.  
BUSSEY INSTITUTION.  
RECEIPTS.

Income of Funds.		
Bussey Institution (balance), . . . . .	\$1,405.45	
Bussey Trust ( $\frac{1}{2}$ net income), . . . . .	4,255.17	\$5,660.62
Tuition fees, . . . . .		2,355.50
Interest on tuition fees paid in advance, . . . . .		19.22
Sale of wood, hay, and sundries, . . . . .	\$87.31	
“ horse, . . . . .	60.00	
Horticultural Departm't, prizes, sale of flowers, plants, &c.,	1,796.74	
Board of animals, . . . . .	5,196.84	
Use of houses by College officers, . . . . .	720.00	7,860.89
		<u>\$15,896.23</u>

PAYMENTS.		
Salaries, . . . . .	\$8,000.00	
Services and wages, . . . . .	2,850.85	
Repairs and improvements, . . . . .	1,968.69	
Fuel, . . . . .	68.50	
Lighting, . . . . .	9.20	
Water, . . . . .	43.40	
Printing, . . . . .	9.20	
Furniture, . . . . .	15.86	
Stationery and postage, . . . . .	9.33	
Books, . . . . .	91.01	
Bulletin, . . . . .	89.52	
Binding, . . . . .	50.15	
Advertising, . . . . .	51.27	
Insurance, . . . . .	204.00	
Horticultural Department, expenses, . . . . .	1,961.56	
Grain, farming tools, &c., . . . . .	1,799.50	
Diplomas, . . . . .	.75	
Legal expenses, . . . . .	6.00	
Horse, . . . . .	62.00	
Sundries, . . . . .	27.79	\$17,318 58

**TABLE No. IX.**  
**ARNOLD ARBORETUM.**

**RECEIPTS.**

Gifts for capital account.

**Arnold Arboretum Fund (additional), . . . . . \$835.00**

Income of Funds and Gifts.

**Arnold Arboretum, . . . . . \$6,126.58**

**James Arnold, . . . . . 7,876.08**

**Robert Charles Billings, . . . . . 668.20**

**William L. Bradley. Interest, . . \$1,170.47**

                    Gift, . . . . . 600.00      1,770.47

**Bussey, for the Arnold Arboretum, . . . . . 113.55**

**Gifts for construction, . . . . . 391.41**

**Gift for books, . . . . . 32.89      16,979.18**

**Sale of grass and materials, . . . . . \$1,592.85**

**Gifts for present use, . . . . . 2,000.00**

    " real estate and construction, . . . . . 34,846.11

    " books, . . . . . 5,000.00      48,438.96

**\$61,253.09**

**PAYMENTS.**

**From William L. Bradley Fund, bibliography, . . . . . \$2,272.00**

**Real estate, from gifts, . . . . . 20,281.85**

**Salaries of Director and Assistant, . . . . . \$3,500.00**

**Repairs and improvements, . . . . . 5,018.65**

**Labor, . . . . . 6,772.52**

**Fuel, . . . . . 322.29**

**Water, . . . . . 49.25**

**Furniture, . . . . . 24.00**

**Stationery and postage, . . . . . 156.65**

**Books, . . . . . 11.40**

**Books from special gifts, . . . . . 1,752.10**

**Services and wages, . . . . . 6,184.15**

**Supplies, tools, and materials, . . . . . 619.12**

**Freight, . . . . . 136.29**

**Rent of Glover Estate, . . . . . 150.00**

**Expenses of expeditions for collecting, . . . . . 56.90**

**Sundries, . . . . . 73.07      24,826.89**

**\$47,879.74**

TABLE No. X.  
BOTANIC GARDEN AND BOTANIC MUSEUM.  
RECEIPTS.

Income of Funds.		
Botanic Department Fund ( $\frac{1}{2}$ income), . . . . .	\$1,223.24	
Lowell Fund, . . . . .	3,267.22	
John L. Russell Fund (part), . . . . .	24.60	
Gift for cases, . . . . .	27.42	
“ sugar cane investigations, . . . . .	16.97	
Gifts for immediate use, . . . . .	3,362.00	
Sale of botanical material, . . . . .	500.00	
Use of house, . . . . .	700.00	\$9,121.45

PAYMENTS.		
From gifts, for cases, . . . . .		\$80.75
“ for sugar-cane investigations, . . . . .		112.00
Services and wages, . . . . .	\$797.02	
Labor, . . . . .	5,070.80	
Care and cleaning, . . . . .	35.97	
Repairs and improvements, . . . . .	1,283.59	
Fuel, . . . . .	915.00	
Water, . . . . .	169.41	
Furniture, . . . . .	150.00	
Instruments and apparatus, . . . . .	154.70	
Stationery and postage, . . . . .	1.17	
Telephone, . . . . .	67.90	
Books, . . . . .	7.68	
Insurance, . . . . .	37.50	
Taxes, . . . . .	161.10	
Electric power, . . . . .	1.26	
Interest on advances, . . . . .	363.05	
Supplies and sundries, . . . . .	687.93	9,904.08
		\$10,096.83

TABLE No. XI.  
GRAY HERBARIUM.  
RECEIPTS.

Income of Funds.		
Gray Herbarium (balance), . . . . .	\$46.25	
Robert C. Billings, . . . . .	738.00	
Asa Gray Memorial, . . . . .	1,604.46	
Herbarium, . . . . .	1,016.27	
John L. Russell (part), . . . . .	73.80	\$3,478.78
Asa Gray's copyrights, . . . . .		784.80
Gifts for immediate use, . . . . .		4,270.00
Received for lost books, . . . . .		1.80
Amount carried forward, . . . . .		\$8,534.88

TABLE No. XI, GRAY HERBARIUM, CONTINUED.

RECEIPTS.

Amount brought forward, . . . . .		\$8,534.88
Sale of publications, . . . . .	\$38.18	
“ contributions, . . . . .	7.20	
“ card index, . . . . .	1,990.97	
“ check lists, . . . . .	.15	
Commission on sale of Sullivant’s Icones, . . . . .	5.92	2,042.42
		<u>\$10,577.80</u>

PAYMENTS.

Salaries, . . . . .	\$5,700.00	
Services and wages, . . . . .	1,863.66	
Care and cleaning, . . . . .	167.89	
Repairs and improvements, . . . . .	13.08	
Furniture, . . . . .	61.10	
Stationery and postage, . . . . .	142.71	
Printing, . . . . .	434.83	
Books, . . . . .	568.00	
Binding, . . . . .	107.55	
Advertising, . . . . .	4.00	
Gray’s Manual, . . . . .	50.00	
Collector’s expenses, . . . . .	276.80	
Supplies and sundries, . . . . .	1,245.06	\$10,634.68

TABLE No. XII.

OBSERVATORY.

RECEIPTS.

Gift for Capital Account.		
Advancement of Astronomical Science (1902), . . . . .		\$1,000.00
Income of Funds and Gift.		
Advancement of Astronomical Science (1902).		
Interest (part), . . . . .	\$643.12	
Sales, . . . . .	134.80	
Gifts, . . . . .	377.17	\$1,155.09
Anonymous Gift (1902), . . . . .	58.75	
Thomas G. Appleton, . . . . .	246.00	
J. Ingersoll Bowditch, . . . . .	123.00	
Uriah A. Boyden, . . . . .	9,835.92	
Charlotte Harris, . . . . .	98.40	
Haven, . . . . .	2,214.00	
James Hayward, . . . . .	1,033.20	
Observatory Endowment, . . . . .	2,460.00	
Paine Professorship, . . . . .	2,460.00	
Robert Treat Paine, . . . . .	13,477.45	
Amounts carried forward, . . . . .	\$33,161.81	\$1,000.00

TABLE NO. XII, OBSERVATORY, CONTINUED.

RECEIPTS.

Amounts brought forward, . . . . .	\$33,161.81	\$1,000.00
Income of Funds and Gifts ( <i>continued</i> ).		
Edward B. Phillips, . . . . .	5,426.46	
Josiah Quincy, . . . . .	662.88	
James Savage ( $\frac{1}{4}$ net income), . . . . .	441.60	
David Sears, . . . . .	1,882.79	
Augustus Story, . . . . .	653.80	42,233.84
Mrs. Henry Draper, gift for special research (addi- tional), . . . . .	\$10,000.00	
Interest, . . . . .	18.33	10,013.83
Use of house by College officer, . . . . .	\$600.00	
Sale of Annals, . . . . .	140.77	
“ grass, . . . . .	80.00	770.77
		<u>\$54,017.44</u>

PAYMENTS.

From Anonymous Gift (1902), . . . . .		\$9,240.07
“ Advancement of Astronomical Science Fund (1902),	\$3,276.49	
Less amount included in general expenses, .	8,000.00	276.49
“ Uriah A. Boyden Fund, supplies, apparatus, services, &c.,		12,996.65
“ Draper Memorial, supplies, apparatus, services, &c.,	\$9,736.71	
Less amount included in salaries, . . . . .	2,500.00	7,236.71
Salaries, . . . . .	\$16,600.00	
Services and wages, . . . . .	7,289.61	
Repairs and improvements, . . . . .	1,916.94	
Care and cleaning, . . . . .	618.40	
Labor, . . . . .	1,531.50	
Fuel, . . . . .	626.00	
Water, . . . . .	79.48	
Lighting, . . . . .	219.51	
Printing, . . . . .	1,977.08	
Furniture, . . . . .	182.35	
Instruments and apparatus, . . . . .	695.47	
Stationery, postage, and telegraphing, . . . . .	609.83	
Telephone, . . . . .	111.60	
Books, . . . . .	374.42	
Binding, . . . . .	477.91	
Insurance, . . . . .	22.23	
Freight, . . . . .	292.32	
Use of house, . . . . .	90.00	
Electric power, . . . . .	61.49	
Legal expenses, . . . . .	25.00	
Interest on advances, . . . . .	272.68	
Supplies and materials, . . . . .	1,756.94	
Sundries, . . . . .	32.88	35,863.64
		<u>\$65,613.56</u>

TABLE NO. XIII.

## MUSEUM OF COMPARATIVE ZOÖLOGY.

## RECEIPTS.

## Income of Funds.

Museum of Comparative Zoölogy (balance), . . .	\$1,885.28	
Agassiz Memorial, . . . . .	14,658.30	
Teachers and Pupils, . . . . .	378.62	
Virginia Barret Gibbs Scholarship, . . . . .	272.17	
Gray Fund for Zoölogical Museum, . . . . .	2,460.00	
Sturgis Hooper, . . . . .	5,308.42	
Humboldt, . . . . .	380.86	
Willard Peele Hunnewell, . . . . .	246.00	
Permanent Fund for Museum of Zoölogy, . . . .	5,779.47	
Henry L. Pierce, . . . . .	4,920.00	\$35,779.07
Use of lecture rooms by Radcliffe College, . . . .	\$700.00	
Received for books lost, . . . . .	19.00	
Sales of publications, . . . . .	156.88	
Repayment of money in the custody of the Keeper, . .	485.19	1,860.57
		<u>\$37,189.64</u>

## PAYMENTS.

## From Sturgis Hooper Fund.

Salary of Sturgis Hooper Professor, . . . . .	\$5,000.00	
Expenses, . . . . .	47.00	\$5,047.00
From Virginia Barrett Gibbs Scholarship Fund, scholarship,		250.00
Salaries, . . . . .	\$8,600.00	
Services and wages, . . . . .	8,765.00	
Repairs and improvements, . . . . .	1,401.54	
Care and cleaning, . . . . .	8,748.50	
Fuel, . . . . .	2,559.69	
Water, . . . . .	41.00	
Gas, . . . . .	6.40	
Printing, . . . . .	8,122.05	
Cases, . . . . .	853.30	
Furniture, . . . . .	187.98	
Instruments and apparatus, . . . . .	270.24	
Stationery and postage, . . . . .	98.20	
Telephone, . . . . .	52.58	
Books, . . . . .	1,492.40	
Binding, . . . . .	1,552.39	
Insurance, . . . . .	2.71	
Watchmen, . . . . .	788.00	
Collections, . . . . .	1,984.22	
Freight, . . . . .	288.21	
Supplies and sundries, . . . . .	788.85	
Amounts carried forward, . . . .	\$31,493.35	\$5,297.00



TABLE No. XIII, MUSEUM OF COMPARATIVE ZOÖLOGY, CONTINUED.  
PAYMENTS.

Amounts brought forward, . . . . .	\$31,493.35	\$5,297.00
Less the following items which were paid from College income (see Table II, page 75) :—		
Heating and service, . . . . .	\$3,240.89	
Librarian's salary (part), . . . . .	250.00	
Watchman (part), . . . . .	240.00	
Publishing contributions from the Laboratories of Geology and Zoölogy, . . . . .	350.00	4,080.89
		27,412.46
		<u>\$32,709.46</u>

TABLE No. XIV.  
PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY  
AND ETHNOLOGY.

RECEIPTS.		
Income of Funds.		
Hemenway Fellowship, . . . . .	\$596.89	
Peabody Building, . . . . .	1,451.00	
Peabody Collection, . . . . .	2,422.15	
Peabody Professor, . . . . .	2,422.15	
Thaw Fellowship, . . . . .	1,173.19	
Henry C. Warren Exploration, . . . . .	510.50	
Susan Cornelia Warren, . . . . .	246.00	
Robert C. Winthrop Scholarship, . . . . .	279.01	
Huntington Frothingham Wolcott, . . . . .	1,017.26	\$10,118.15
Use of heating plant, . . . . .		75.00
Gifts for present use, . . . . .		725.00
		<u>\$10,918.15</u>

PAYMENTS.		
From Henry C. Warren Fund, explorations, . . . . .		\$495.00
“ Huntington Frothingham Wolcott Fund, specimens, . . . . .		890.07
Hemenway Fellowship, . . . . .		500.00
Thaw Fellowship, . . . . .		1,158.12
Robert C. Winthrop Scholarship, . . . . .		120.00
Salary of Professor and Curator, . . . . .	\$2,379.97	
Services and wages, . . . . .	2,612.26	
Repairs and improvements, . . . . .	190.82	
*Care and cleaning, . . . . .	1,053.95	
*Fuel, . . . . .	199.20	
Water, . . . . .	25.00	
*Lighting, . . . . .	10.29	
Printing, . . . . .	83.74	
Amounts carried forward, . . . . .	\$6,555.23	\$3,163.19

TABLE NO. XIV, PEABODY MUSEUM, CONTINUED.

## PAYMENTS.

Amounts brought forward, . . . . .	\$6,555.23	\$3,163.19
Furniture, . . . . .	230.86	
Stationery and postage, . . . . .	270.88	
Telephone, . . . . .	36.29	
Books, . . . . .	91.76	
Binding, . . . . .	18.75	
Collections, . . . . .	491.25	
Expenses in collecting specimens, . . . . .	168.08	
Freight, . . . . .	193.54	
Supplies, . . . . .	326.64	
Sundries, . . . . .	82.29	
Interest on advances, . . . . .	91.87	
	<u>\$8,501.94</u>	
Less the items marked *, which were paid from University income (see Table I, page 72), . . . . .	1,263.44	7,238.50
		<u>\$10,401.69</u>

TABLE NO. XV.

## SEMITIC MUSEUM.

## RECEIPTS.

Income of Gifts for Semitic Collection, . . . . .		\$252.45
Gift for excavations in Palestine.		
Gift, . . . . .	\$5,000.00	
Interest, . . . . .	9.04	5,009.04
		<u>\$5,261.49</u>

## PAYMENTS.

From Gifts for Semitic Collection, collections, . . . . .		\$698.19
General expenses.		
Curator, . . . . .	\$500.00	
Repairs and improvements, . . . . .	53.97	
Care and cleaning, . . . . .	623.48	
Fuel, . . . . .	255.67	
Water, . . . . .	21.00	
Lighting, . . . . .	7.11	
Furniture, . . . . .	17.00	
Printing, . . . . .	4.70	
Electric power, . . . . .	14.34	
Supplies and sundries, . . . . .	18.57	
Use of Peabody Museum heating plant, . . . . .	75.00	
These general expenses were paid from University income (see Table I, page 72), . . . . .	<u>\$1,590.84</u>	
		<u>\$698.19</u>

**TABLE No. XVI.**  
**GERMANIC MUSEUM.**

**RECEIPTS.**

Gift for opening the Museum on Sunday and Thursday afternoons,		<u><u>\$150.00</u></u>
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**PAYMENTS.**

**General expenses.**

Repairs and improvements, . . . . .	\$27.66	
Care and cleaning, . . . . .	428.03	
Fuel, . . . . .	107.64	
Water, . . . . .	10.00	
Lighting, . . . . .	76.10	
Insurance, . . . . .	50.09	
Binding, . . . . .	9.25	
Photographs, . . . . .	10.00	
Electric power, . . . . .	68.46	
Sunday and Thursday opening of Museum, . . . .	215.35	
Supplies and sundries, . . . . .	12.90	
	<u>\$1,015.48</u>	

Less the amount which was paid from University income (see Table I, page 72), . . . . .	<u>865.48</u>	<u>\$150.00</u>
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**TABLE No. XVII.**

**WILLIAM HAYES FOGG ART MUSEUM.**

**RECEIPTS.**

**Income of Funds.**

William Hayes Fogg Art Museum balance, .	\$5.36	
William Hayes Fogg, . . . . .	2,460.00	
Gray Fund for Engravings.		

Interest, . . . . .	\$799.20	
Sale of catalogue, . . . . .	5.00	804.20

**William M. Prichard.**

Interest, . . . . .	\$820.56	
Gift, . . . . .	26.21	846.77

John Witt Randall, . . . . .	1,671.03	
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Mary R. Searle, . . . . .	94.96	\$5,882.82
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Sale of photographs and catalogue, . . . . .		8.50
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	<u>\$5,890.82</u>	
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TABLE NO. XVII, WILLIAM HAYES FOGG ART MUSEUM, CONTINUED.

## PAYMENTS.

From the following Funds:—

**Gray Fund for Engravings.**

Curator, . . . . .	\$250.00	
Collections, . . . . .	165.14	
Expenses, . . . . .	149.60	564.74
<b>William M. Prichard, collections, . . . . .</b>		<b>80.02</b>

**John Witt Randall.**

Curator, . . . . .	\$250.00	
Collections, . . . . .	286.08	
Expenses, . . . . .	846.24	1,382.27
<b>Mary R. Searle, books, . . . . .</b>		<b>123.87</b>

**William Hayes Fogg.**

Director, . . . . .	\$500.00	
Services and wages, . . . . .	1,817.17	
*Care and cleaning, . . . . .	1,600.74	
Repairs and improvements, . . . . .	121.60	
*Fuel, . . . . .	977.59	
*Water, . . . . .	13.65	
*Lighting, . . . . .	168.52	
Furniture, . . . . .	12.04	
Printing, . . . . .	2.65	
Insurance, . . . . .	21.53	
Photographs, . . . . .	31.59	
Work on collections, . . . . .	29.10	
*Electric power, . . . . .	56.49	
Supplies and sundries, . . . . .	71.52	
	<u>\$4,924.19</u>	
Less the items marked *, which were paid from University income (see Table I, page 72), . . . . .	2,816.99	2,107.20
		<u>\$4,257.60</u>

TABLE NO. XVIII.

## JEFFERSON PHYSICAL LABORATORY.

## RECEIPTS.

Income of Funds.

Jefferson Physical Laboratory (balance), . . . . .	\$86.00	
Physical Laboratory Endowment, . . . . .	3,690.00	
T. Jefferson Coolidge, for Research in Physics, . . . . .	52.59	
Joseph Lovering, . . . . .	389.47	<u>\$4,218.06</u>

## PAYMENTS.

Research in Physics, from

T. Jefferson Coolidge Fund, . . . . .	\$1,121.24	
Joseph Lovering Fund, . . . . .	306.91	
Gift for immediate use, . . . . .	2.00	
Amount carried forward, . . . . .		<u>\$1,480.15</u>

TABLE NO. XVIII, JEFFERSON PHYSICAL LABORATORY, CONTINUED.

## PAYMENTS.

Amount brought forward, . . . . .			\$1,430.15
Repairs and improvements, . . . . .	\$119.98		
Care and cleaning, . . . . .	1,021.50		
Fuel, . . . . .	527.18		
Water, . . . . .	66.64		
Lighting, . . . . .	611.35		
Telephone, . . . . .	70.45		
Insurance, . . . . .	64.69		
Services and wages, . . . . .	1,346.00		
Electric power, . . . . .	293.91		
Supplies and sundries, . . . . .	5.98		
	<u>\$4,127.68</u>		
Less the following items, which were paid from College income (see Table II, page 75) :—			
Repairs, . . . . .	\$90.22		
Fuel, services, etc., . . . . .	600.00	690.22	3,437.46
			<u>\$4,867.61</u>

TABLE NO. XIX.  
APPLETON CHAPEL.

## RECEIPTS.

## Income of Funds.

Fund for Religious Services, . . . . .	\$50.87	
Increase Sumner Wheeler, . . . . .	2,460.00	<u>\$2,510.87</u>

## PAYMENTS.

Preaching and morning services, . . . . .	\$3,258.50
Administrator, . . . . .	200.00
Organist and Choir-master, . . . . .	2,000.00
Choir, . . . . .	1,600.00
Repairs and improvements, . . . . .	119.53
Care and cleaning, . . . . .	344.80
Fuel, . . . . .	347.90
Water, . . . . .	2.31
Lighting, . . . . .	308.67
Furniture, . . . . .	44.51
Printing, . . . . .	11 90
Music, . . . . .	366.61
Binding, . . . . .	70.54
Insurance, . . . . .	6.79
Repairing and tuning organ, . . . . .	213.60
Sundries, . . . . .	40.41
	<u>\$8,936.07</u>

Less the amount which was paid from University income (see Table I, page 72), . . . . .	6,425.20	<u>\$2,510.87</u>
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TABLE No. XX.

PHILLIPS BROOKS HOUSE.

RECEIPTS.

Income of Funds.

Phillips Brooks House Endowment, . . . . .	\$516.94	
John W. and Belinda L. Randall, . . . . .	286.35	
Ralph H. Shepard, . . . . .	542.38	
Ralph Hamilton Shepard Memorial, . . . . .	818.23	\$1,663.90
Gifts for immediate use, . . . . .		750.00
		<u>\$2,413.90</u>

PAYMENTS.

From John W. and Belinda L. Randall Fund.

Social Service Committee, . . . . .		\$400.00
Secretary of Phillips Brooks House Association, .	\$850.00	
Repairs, . . . . .	195.81	
Care and cleaning, . . . . .	1,097.06	
Fuel, . . . . .	382.54	
Water, . . . . .	90.55	
Lighting, . . . . .	125.72	
Furniture, . . . . .	38.82	
Books, . . . . .	13.99	
Insurance, . . . . .	322.99	
Cataloguing, . . . . .	30.00	
Receptions, . . . . .	380.32	
Services of Religious Education Association, . . . . .	10.00	
Supplies and sundries, . . . . .	75.60	
	<u>\$3,612.90</u>	

Less the following items, which were paid from University income (see Table I, page 72) :—

Repairs and improvements, . . . . .	\$187.01		
Care and cleaning, . . . . .	997.56		
Fuel, . . . . .	382.54		
Water, . . . . .	90.55		
Lighting, . . . . .	125.72		
Furniture, . . . . .	8.50		
Insurance, . . . . .	322.99		
Supplies and sundries, . . . . .	8.13	2,123.00	1,489.90
			<u>\$1,889.90</u>

TABLE NO. XVIII, JEFFERSON PHYSICAL LABORATORY, CONTINUED.

## PAYMENTS.

Amount brought forward, . . . . .			\$1,430.15
Repairs and improvements, . . . . .	\$119.98		
Care and cleaning, . . . . .	1,021.50		
Fuel, . . . . .	527.18		
Water, . . . . .	66.64		
Lighting, . . . . .	611.35		
Telephone, . . . . .	70.45		
Insurance, . . . . .	64.69		
Services and wages, . . . . .	1,346.00		
Electric power, . . . . .	298.91		
Supplies and sundries, . . . . .	5.98		
	<u>\$4,127.68</u>		
Less the following items, which were paid from College income (see Table II, page 75) :—			
Repairs, . . . . .	\$90.22		
Fuel, services, etc., . . . . .	600.00	690.22	8,437.46
			<u>\$4,867.61</u>

TABLE NO. XIX.  
APPLETON CHAPEL.

## RECEIPTS.

## Income of Funds.

Fund for Religious Services, . . . . .	\$50.87	
Increase Sumner Wheeler, . . . . .	2,460.00	\$2,510.87

## PAYMENTS.

Preaching and morning services, . . . . .	\$3,258.50
Administrator, . . . . .	200.00
Organist and Choir-master, . . . . .	2,000.00
Choir, . . . . .	1,600.00
Repairs and improvements, . . . . .	119.53
Care and cleaning, . . . . .	344.80
Fuel, . . . . .	347.90
Water, . . . . .	2.31
Lighting, . . . . .	308.67
Furniture, . . . . .	44.51
Printing, . . . . .	11 90
Music, . . . . .	366.61
Binding, . . . . .	70.54
Insurance, . . . . .	6.79
Repairing and tuning organ, . . . . .	218.60
Sundries, . . . . .	40.41
	<u>\$8,986.07</u>

Less the amount which was paid from University income (see Table I, page 72), . . . . .		
	<u>6,425.20</u>	\$2,510.87

## TABLE No. XX.

## PHILLIPS BROOKS HOUSE.

## RECEIPTS.

## Income of Funds.

Phillips Brooks House Endowment, . . . . .	\$516.94	
John W. and Belinda L. Randall, . . . . .	286.85	
Ralph H. Shepard, . . . . .	542.88	
Ralph Hamilton Shepard Memorial, . . . . .	318.28	\$1,668.90
Gifts for immediate use, . . . . .		750.00
		<u>\$2,418.90</u>

## PAYMENTS.

## From John W. and Belinda L. Randall Fund.

Social Service Committee, . . . . .		\$400.00
Secretary of Phillips Brooks House Association, .	\$850.00	
Repairs, . . . . .	195.81	
Care and cleaning, . . . . .	1,097.06	
Fuel, . . . . .	382.54	
Water, . . . . .	90.55	
Lighting, . . . . .	125.72	
Furniture, . . . . .	38.82	
Books, . . . . .	13.99	
Insurance, . . . . .	322.99	
Cataloguing, . . . . .	30.00	
Receptions, . . . . .	380.32	
Services of Religious Education Association, . . . . .	10.00	
Supplies and sundries, . . . . .	75.60	
	<u>\$3,612.90</u>	

Less the following items, which were paid from University income (see Table I, page 72) :—

Repairs and improvements, . . . . .	\$187.01		
Care and cleaning, . . . . .	997.56		
Fuel, . . . . .	382.54		
Water, . . . . .	90.55		
Lighting, . . . . .	125.72		
Furniture, . . . . .	8.50		
Insurance, . . . . .	322.99		
Supplies and sundries, . . . . .	8.18	2,128.00	1,489.90
			<u>\$1,889.90</u>



**TABLE No. XXI.**  
**HEMENWAY GYMNASIUM.**

**RECEIPTS.**

**Fees for the use of**

Lockers, by students, . . . . .	\$3,156.00	
Gymnasium, by graduates, . . . . .	20.00	
Gymnasium, by members of the Episcopal Theological School, . . . . .	66.43	<u>\$3,242.43</u>

**PAYMENTS.**

Salaries, . . . . .	\$4,700.00
Services and wages, . . . . .	1,188.46
Repairs and improvements, . . . . .	1,899.69
Care and cleaning, . . . . .	2,416.58
Fuel, . . . . .	795.18
Apparatus, . . . . .	350.00
Insurance, . . . . .	177.75
Water, . . . . .	227.84
Lighting, . . . . .	691.76
Printing, . . . . .	55.66
Furniture, . . . . .	2.50
Stationery and postage, . . . . .	33.66
Telephone, . . . . .	42.85
Supplies and sundries, . . . . .	44.09
	<u>\$12,626.02</u>

**Less the following items : —**

Charged to Divinity School (see Table IV,  
page 96), . . . . . \$108.12

Charged to Law School (see Table V,  
page 98), . . . . . 1,905.88

Charged to The College (see Table II,  
page 75), . . . . . 7,369.59      9,383.59      \$3,242.43

**TABLE No. XXII.**  
**STILLMAN INFIRMARY.**

**RECEIPTS.**

**Income of Funds.**

Robert Charles Billings, . . . . .	\$2,460.00	
Free Bed Fund of the Class of 1868, . . . . .	262.19	
“ “ for the Stillman Infirmary, . . . . .	26.52	
Herbert Schurz Memorial Free Bed Fund, . . . . .	147.60	
Stillman Infirmary (balance), . . . . .	300.30	
Henry P. Walcott, . . . . .	130.18	
Samuel Ward (part), . . . . .	733.58	<u>\$4,060.37</u>

**Receipts from Students.**

Infirmary annual fees, . . . . .	\$14,860.00	
Receipts from patients, . . . . .	5,752.32	<u>20,612.32</u>
		<u>\$24,672.69</u>

TABLE NO. XXII, STILLMAN INFIRMARY, CONTINUED.

## PAYMENTS.

Services and wages, . . . . .	\$5,488.11	
Janitors and cleaning, . . . . .	2,789.25	
Repairs and improvements, . . . . .	187.40	
Fuel, . . . . .	2,529.31	
Water, . . . . .	289.81	
Lighting, . . . . .	617.70	
Furniture, . . . . .	275.32	
Stationery and postage, . . . . .	47.87	
Telephone, . . . . .	223.49	
Printing, . . . . .	26.89	
Electric power, . . . . .	180.43	
Food and supplies, . . . . .	5,679.78	
Sundries, . . . . .	65.03	\$18,299.89

TABLE NO. XXIII.

## SUNDRY FUNDS FOR SPECIAL PURPOSES.

## RECEIPTS.

## Gifts for Capital Account.

Calvin and Lucy Ellis Aid (additional), . . .	\$2,899.87	
Fund of the Class of 1846, . . . . .	10,571.07	\$12,970.44

## Income of Funds, Gifts, &amp;c.

Advancement of Astronomical Science (1901), . . . . .	2,460.00
“ “ “ “ (1902) (part), . . . . .	643.12
Bussey Trust (part), . . . . .	4,000.00
Class of 1834, . . . . .	57.91
“ 1844, . . . . .	332.96
“ 1846, . . . . .	173.88
“ 1853, . . . . .	149.00
“ 1856, . . . . .	369.00
Caroline Brewer Croft (part), . . . . .	2,268.05
Calvin and Lucy Ellis (part), . . . . .	995.24
Calvin and Lucy Ellis Aid (part), . . . . .	357.77
Gifts for the purchase of land in New Hampshire (gift), . . .	1,500.00
George H. Emerson Scholarship (part), . . . . .	17.69
Gospel Church ( $\frac{1}{2}$ income), . . . . .	163.03
Gurney (part), . . . . .	1,000.00
Charles L. Hancock (part), . . . . .	39.06
Harvard Memorial Society, . . . . .	65.05
Insurance and Guaranty Fund (part), . . . . .	300.36
Munroe (part), . . . . .	10.00
Henry S. Nourse (part), . . . . .	1,022.19
Amount carried forward, . . . . .	\$28,894.25

TABLE NO. XXIII, SUNDRY FUNDS FOR SPECIAL PURPOSES, CONTINUED.

## RECEIPTS.

Amount brought forward, . . . . .		\$28,894.25
Income of Funds, Gifts, &c. ( <i>continued</i> ).		
Robert Troup Paine (accumulating), . . . . .		1,571.21
Professorship of Hygiene (part), . . . . .		3,764.57
Nelson Robinson Jr. (part), . . . . .		5,000.00
George Smith Bequest, . . . . .		13,637.24
Stoughton Scholarship (part), . . . . .		15.00
Alexander Wheelock Thayer (part), . . . . .		480.00
David Ames Wells (part), . . . . .		111.00
Charles Wilder, . . . . .		1,968.00
Daniel Williams, . . . . .		819.43
Sarah Winslow, . . . . .		236.11
Woodland Hill. Interest, . . . . .	\$190.65	
Use of laboratory, . . . . .	1,000.00	1,190.65
		<u>\$57,687.46</u>

## PAYMENTS.

From the following Funds and Gifts.

Advancement of Astronomical Science (1901), annuity, . . .		\$2,385.00
“ “ “ “ (1902) “ . . .		586.95
Bussey Trust, Annuities, . . . . .		4,000.00
Class of 1853, Secretary of the Class, . . . . .		149.00
“ 1856, “ “ “ . . . . .		178.87
Caroline Brewer Croft, annuity, . . . . .		2,194.80
Calvin and Lucy Ellis, taxes and expenses, . . . . .		111.89
George H. Emerson Scholarship.		
Legal expenses, . . . . .	\$17.69	
Repaid to Trustee, . . . . .	325.00	342.69
Gifts for Cuban Teachers, expenses, . . . . .		25.00
“ “ the purchase of land in New Hampshire, . . . . .		1,480.00
Gurney, annuities, . . . . .		1,000.00
Charles L. Hancock, taxes on Chelsea real estate, . . .		39.06
Insurance and Guaranty Fund.		
Estate in Lucas St., Boston.		
Sewer assessment, . . . . .	\$240.36	
Insurance, . . . . .	60.00	300.36
Munroe, legal expenses, . . . . .		10.00
Henry S. Nourse.		
Legal and other expenses, . . . . .	\$22.19	
Annuity, . . . . .	1,000.00	1,022.19
Professorship of Hygiene, annuity, . . . . .		3,919.76
George Smith Bequest. Annuities, . . . . .	\$900.00	
Sundry expenses, . . . . .	106.54	1,006.54
Amount carried forward, . . . . .		\$18,752.11

**TABLE No. XXIII, SUNDRY FUNDS FOR SPECIAL PURPOSES, CONTINUED.**  
**PAYMENTS.**

Amount brought forward, . . . . .		\$18,752.11
From the following Funds and Gifts ( <i>continued</i> ).		
Stoughton Scholarship, legal expenses, . . . . .		15.00
David Ames Wells, legal expenses, . . . . .		111.00
Alexander Wheelock Thayer, annuity, . . . . .		480.00
Charles Wilder, annuities, . . . . .		1,908.00
Daniel Williams.		
Treasurer of Mashpee Indians, . . . . .	\$529.25	
“ “ Herring Pond Indians, . . . . .	259.64	788.89
Sarah Winslow.		
Teacher at Tyngsborough, Mass., . . . . .	\$113.99	
Minister “ “ “ . . . . .	113.99	
Commission on income, credited to University, . . . . .	5.90	288.88
Woodland Hill.		
Taxes, . . . . .	\$1,027.52	
Street assessment, . . . . .	730.26	
Legal expenses, . . . . .	10.85	1,768.68
		<u>\$24,057.51</u>

**TABLE No. XXIV.**  
**CONSTRUCTION ACCOUNTS.**

**RECEIPTS.**

Emerson Hall. Gifts, . . . . .	\$5,225.00	
Interest, . . . . .	4,032.75	\$9,257.75
New Library Building. Gift, . . . . .	\$10,000.00	
Interest, . . . . .	870.05	10,870.05
Semitic Building, interest, . . . . .		23.03
John Simpkins Hall, interest, . . . . .		10.80
Stillman Infirmary, interest (part), . . . . .		863.66
Gifts for Improvements and Additions to The Soldier's Field, gift, . . . . .		20,000.00
		<u>\$41,025.29</u>

**PAYMENTS.**

Emerson Hall, construction, . . . . .	\$111,144.38	
Semitic Building and furniture, . . . . .		682.06
John Simpkins Hall, equipment, . . . . .		956.10
Stillman Infirmary. Construction, main building, . . . . .	\$2,105.36	
Contagious Ward, . . . . .	67,274.67	69,880.03
University Museum, . . . . .		1,460.12
Gifts for Improvements and Additions to The Soldier's Field.		
Stadium. Construction, . . . . .	\$10,000.00	
Interest on advances, . . . . .	2,953.35	\$12,953.35
Permanent improvements, . . . . .	5,000.00	17,953.35
		<u>\$201,576.04</u>

**TABLE No. XXV.**  
**SUNDRY ACCOUNTS.**

**RECEIPTS.**

<b>Bursar's Sundry Accounts,</b>			<b>\$461,998.28</b>
<b>Advances from General Investments to</b>			
Anonymous Gift for Observatory,	\$712.95		
Botanic Department,	827.02		
<b>Uriah A. Boyden Fund,</b>	3,160.73		
Classical Publication Fund of the <b>Class of 1856,</b>	218.73		
Department of Education Library,	107.59		
<b>Lloyd McKim Garrison Prize and Medal Fund,</b>	11.44		
Medical School Undertaking,	255,210.16		
Observatory,	18.07		
<b>Sales Book Fund,</b>	5.69		
<b>Ward Book Fund,</b>	114.45	<b>260,881.88</b>	
<b>Repayment on account of Aquarium,</b>			<b>.40</b>
<b>Gains and Losses for General Investments.</b>			
Gain on sale of \$100,000 Chicago & North Western (Madison Extension) R. R. 1st M. 7's of 1911,	\$6,987.47		
Gain on \$134,000 Fort Scott, South Eastern & Mem- phis R. R. 1st M. 7's, paid off at 105, between September, 1885, and October, 1904,	3,891.31	<b>10,878.78</b>	
<b>Gain from change of Special Investments.</b>			
<b>Fund for the Scholarship of the Class of 1883.</b>			
Gain on sale of \$5,000 Brookline Gas Light Co. Gen. M. 5's of 1913,	\$307.50		
<b>Charles L. Hancock Bequest.</b>			
Gain on sale of lands in Chelsea, Mass.,	715.00		
<b>Henry S. Nourse Bequest.</b>			
Gain on sales as follows:—			
32 shares American Sugar Ref. Co.,	\$252.00		
80   "   The National Land & Im- provement Co., of Col.,	714.00		
21   "   Pennsylvania Steel Co., pref.,	362.25		
45   "   Western Tel. & Tel. Co., com.,	61.25		
15   "   "   "   "   "   pref.,	45.00	<b>1,434.50</b>	
<b>George Smith Bequest.</b>			
Gain on sale of 480 shares United States Steel Corporation, pref.,	2,880.00		
<b>David Ames Wells Fund.</b>			
Gain on sale of real estate in Brooklyn, N.Y.,	2,890.92	<b>8,227.92</b>	
<b>Transfer to the Social Questions Library</b>			
From Gifts for the Department of the Ethics of the Social Questions,		<b>500.00</b>	
		<b>\$741,982.21</b>	

## TABLE No. XXV, SUNDRY ACCOUNTS, CONTINUED.

## PAYMENTS.

<b>Bursar's Sundry Accounts, . . . . .</b>		<b>\$457,488.85</b>
<b>Advances from General Investments, repaid by</b>		
Advancement of Astronomical Science (1902), . .	\$277.17	
Engineering Camp at Squam Lake, . . . . .	254.00	
French Department Library, . . . . .	5.01	
Gifts for Aquarium, . . . . .	.40	
Gifts for Improvements and Additions to The Sol-		
dier's Field, on Account of the Stadium, . . . .	2,046.65	
Hollis Book Fund, . . . . .	6.21	
James Loeb's Gift (part), . . . . .	48.19	
Peabody Museum of American Archaeology and		
Ethnology, . . . . .	60.62	
Shapleigh Book Fund, . . . . .	2.80	
South End House Fellowship, . . . . .	45.00	
Subscription Book Fund, . . . . .	7.80	2,748.85
<b>Loss from change of Special Investment.</b>		
<b>Henry S. Nourse Bequest.</b>		
Loss on sale of 80 shares Lanett Cotton Mills, . . . . .		457.50
<b>Transfer from Gifts for the Department of the Ethics of the Social</b>		
<b>Questions</b>		
To the Social Questions Library, . . . . .		500.00
<b>Sundry balances, . . . . .</b>		88.57
		<b>\$461,228.27</b>

## GENERAL SUMMARY OF THE TABLES.

Table.		Receipts.	Payments.
I.	University, . . . . .	\$88,421.39	\$133,014.81
II.	College, . . . . .	2,329,366.73	788,630.26
III.	Library, . . . . .	65,263.56	67,717.06
IV.	Divinity School, . . . . .	42,427.40	43,825.87
V.	Law School, . . . . .	146,906.73	102,787.03
VI.	{ Medical School, . . . . .	145,419.59	155,235.16
	{ " " Undertaking, . . . . .	906,340.65	1,287,401.71
VII.	Dental School, . . . . .	30,394.85	61,702.56
VIII.	Bussey Institution, . . . . .	15,896.23	17,818.58
IX.	Arnold Arboretum, . . . . .	61,253.09	47,879.74
X.	Botanic Garden and Botanic Museum, .	9,121.45	10,096.83
XI.	Gray Herbarium, . . . . .	10,577.30	10,634.68
XII.	Observatory, . . . . .	54,017.44	65,613.56
XIII.	Museum of Comparative Zoölogy, . . .	37,139.64	32,709.46
XIV.	Peabody Museum of American Archae- ology and Ethnology, . . . . .	10,918.15	10,401.69
XV.	Semitic Museum, . . . . .	5,261.49	698.19
XVI.	Germanic Museum, . . . . .	150.00	150.00
XVII.	William Hayes Fogg Art Museum,	5,890.82	4,257.60
XVIII.	Jefferson Physical Laboratory, . . .	4,218.06	4,867.61
XIX.	Appleton Chapel, . . . . .	2,510.87	2,510.87
XX.	Phillips Brooks House, . . . . .	2,413.90	1,889.90
XXI.	Hemenway Gymnasium, . . . . .	3,242.43	3,242.43
XXII.	Stillman Infirmary, . . . . .	24,672.69	18,299.39
XXIII.	Sundry Funds for Special Purposes, . .	57,687.46	24,057.51
XXIV.	Construction Accounts, . . . . .	41,025.29	201,576.04
XXV.	Sundry Accounts, . . . . .	741,982.21	461,228.27
		<u>\$4,837,519.42</u>	<u>\$3,557,246.81</u>

Total amount of payments, . . . . .	\$3,557,246.81
Total amount of receipts, . . . . .	\$4,837,519.42
Less gifts for capital account, . . . . .	<u>1,455,131.97</u>
	3,382,387.45
Balance, which is the net decrease of Funds and bal- ances, excluding gifts for capital account, as is also shown on page 71, . . . . .	\$174,859.36

*Certificate of the Committees of the Corporation and Overseers of Harvard College, for examining the Accounts of the Treasurer.*

The committees appointed by the Corporation and Overseers of Harvard College to examine the accounts of the Treasurer for the year ending July 31, 1905, have, with the assistance of an expert chosen by them, examined and audited the Cash-book and Journal covering the period from August 1, 1904, to July 31, 1905, inclusive, and have seen that all the bonds, notes, mortgages, certificates of stock, and other evidences of property, which were on hand at the beginning of said year, or have been received by him during said year, are now in his possession, or are fully accounted for by entries made therein; they have also noticed all payments, both of principal and interest, indorsed on any of said bonds or notes, and have seen that the amounts so indorsed have been duly credited to the College.

They have in like manner satisfied themselves that all the entries for moneys expended by the Treasurer, or charged in his books to the College, are well vouched; such of them as are not supported by counter entries being proved by regular vouchers and receipts.

They have also seen that all the entries for said year are duly transferred to the Ledger, and that the accounts there are rightly cast, and the balances carried forward correctly to new accounts.

(Signed)

THOMAS N. PERKINS,

*Committee on the part of the Corporation.*

MOSES WILLIAMS,  
STEPHEN M. WELD,  
WILLIAM C. ENDICOTT,  
G. ST. L. ABBOTT,  
ALLAN FORBES,  
ARTHUR LYMAN,  
RICHARD C. STOREY,  
JOHN L. SALTONSTALL,

*Committee on the part of the Board of Overseers.*

Boston, January 4, 1906.





# INDEX

Titles which appear in the table of Funds and Balances, beginning on page 56, are in full face type.

Figures in *italics* represent payments; in regular roman type, receipts.

Two or more entries on a page are indicated by a small figure at the right of the page number: 20<sup>3</sup> indicates three entries of receipts on page 20.

Abbreviations are used as follows:—

*A.*, Arnold Arboretum;  
*B.*, Book Funds;  
*Be.*, Beneficiary and Loan Funds;  
*C.*, College;  
*D.*, Divinity School;  
*F.*, Fellowship Funds;  
*L.*, Law School;

*M.*, Medical School;  
*M.S.U.*, Medical School Undertaking;  
*O.*, Observatory;  
*P.*, Professorship Funds;  
*Pr.*, Prize Funds;  
*S.*, Scholarship Funds;  
*U.*, University.

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